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NAC 20th Anniversary Issue

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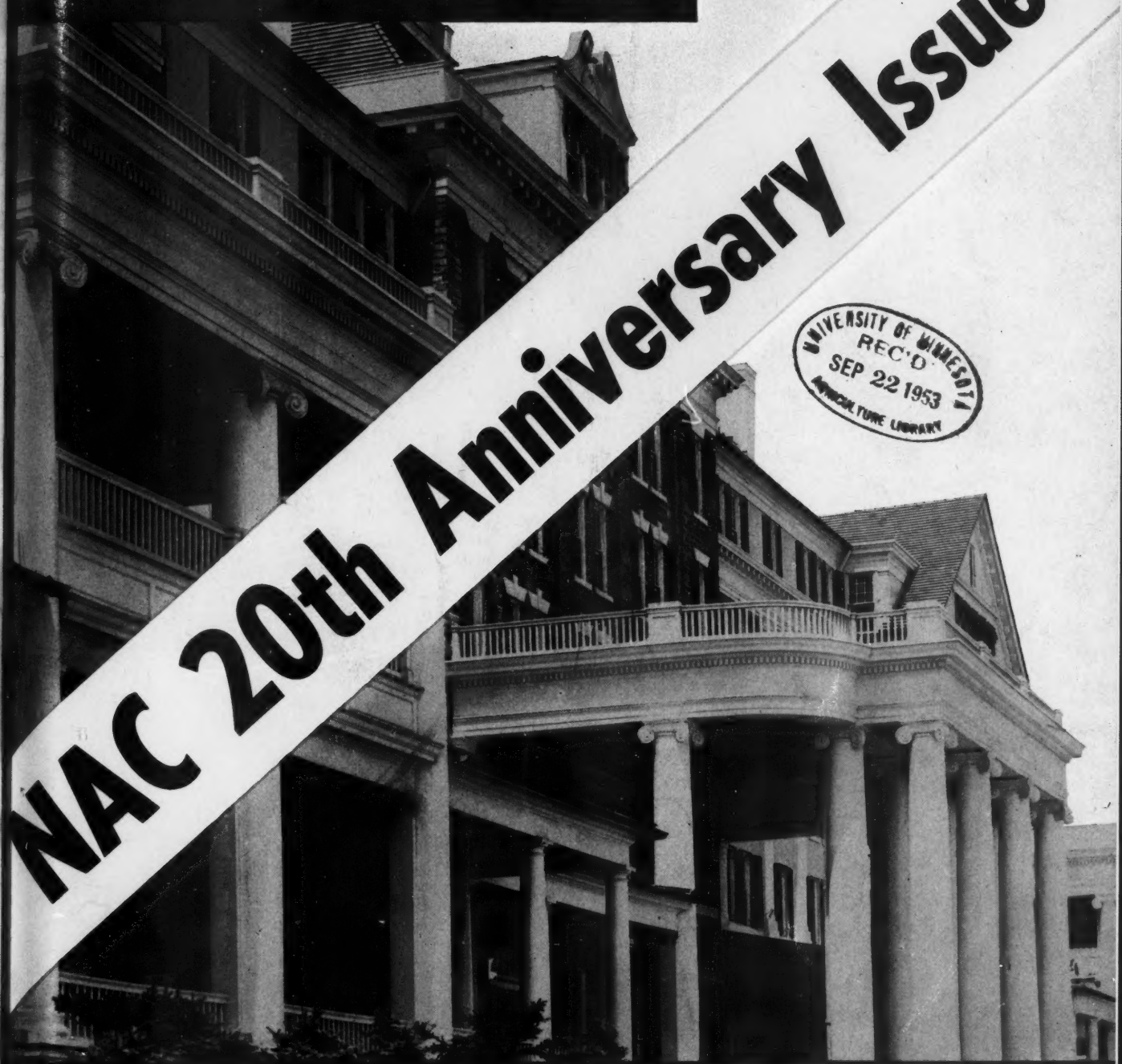

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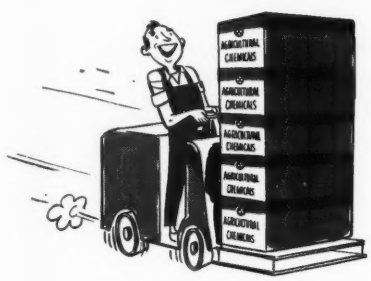

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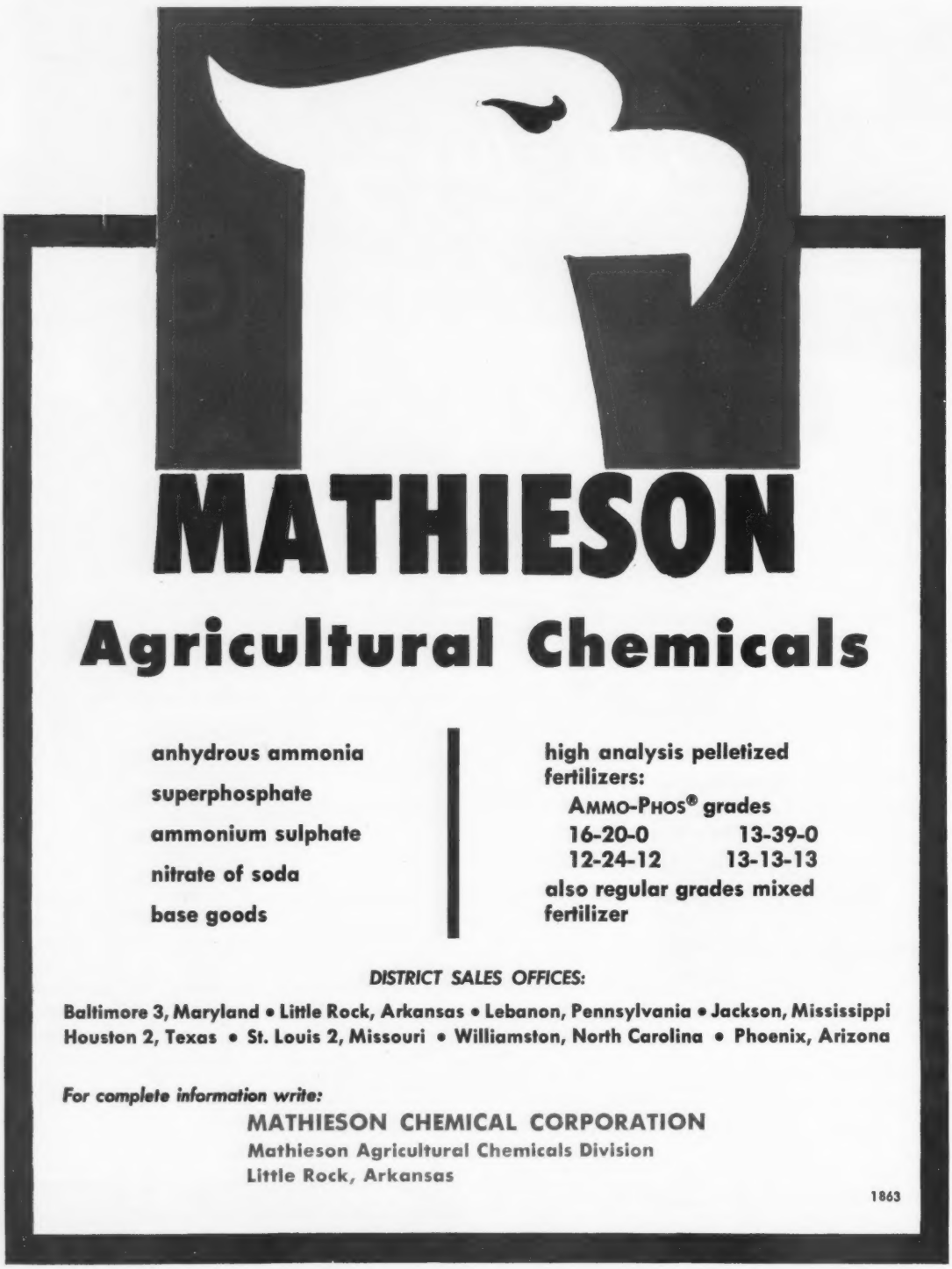

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In this issue . . .

Twenty years old and growing by leaps and bounds . . . that's the story of the National Agricultural Chemicals Association. The NAC, at its annual convention in Spring Lake, N. J., Sept. 9–11, is taking time out to observe the anniversary and the progress since the trade association was founded in 1933. Likewise FARM CHEMICALS has put together a special section devoted to the activities of the NAC and the work it does to assist member companies in the pesticide industry.

First, on page 11, NAC President Arthur W. Mohr tells what it's like to be president of the association—what the job entails and how the work is accomplished.

A description of the annual convention itself is presented on pages 13 and 14, with a complete program for the three days of sessions and photos of the important leaders who will address NAC delegates.

A valuable summary of the why's and wherefore's of NAC, how the organization was started, how it is set up and how it coordinates its work with companies in the industry is given by Val Weyl, editor of *NAC News*, starting on page 15.

Legislative activities is the topic covered by Joseph A. Noone, technical adviser to NAC, in his article on page 29. Noone covers highlights in legislation affecting pesticide manufacturers and tells in detail how the Association attempts to deal with it.

Does your company have technical problems involved in the formulation of insecticides and other farm chemicals? If so you will be interested in the activities of the NAC Technical Advisory committee. Dr. L. Gordon Utter outlines the work of the group in the story on page 35.

Traffic jams, author John J. Lynch declares, are not the prerogative of cities congested with automobiles. The traffic problem in the pesticide industry is handled excellently by a special NAC committee, headed by Lynch. For his discussion of traffic, turn to page 39.

Rounding out the special NAC section are comments from past presidents of the organization, page 26, by other trade association heads, page 34 and by government officials, page 38. An interview with "the father of the pesticide industry" Ernest T. Trigg, appears on page 45.

Nitrogen Division of Allied Chemical & Dye Corp. long has been a leading manufacturer of nitrogen products. Now the Division is making a 12–12–12 fertilizer in a plant being rushed to completion at South Point, O. A complete description of the fertilizer, made by a new chemical process, may be found on page 48.

Liquid fertilizers have been receiving quite a bit of publicity in recent months, so our article on "Na-Churs" Plant Food Co. should have special interest. The picture feature, latest in the FARM CHEMICALS series on industry members, starts on page 50.

farm chemicals

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PIONEER JOURNAL OF THE FARM CHEMICALS INDUSTRY

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Cover Story

The Essex and Sussex Hotel, Spring Lake, N. J., where the National Agricultural Chemicals Association will observe its 20th anniversary at its annual convention.

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. . . Briefly Noted

Spencer Chemical Co. has named **Dr. John R. Brown Jr.** general manager of research and development. He succeeds R. F. Brown, now general works manager.

Brown

Dr. Brown formerly was vice president and director of research for Lambert Pharmacal Co. and prior to that had been assistant director of the Chemical Division, Standard Oil Development Co. He received an MA degree in Chemistry from Oberlin College and an ScD degree in Chemical Engineering from Massachusetts Institute of Technology.

Herbicides and cotton defoliants will be produced at Pacific Coast Borax Co.'s new plant located at Slaton, Tex. J. M. Nunn, former head of Dumas Farm & Ranch Supply Co. is in charge of operations with headquarters at Lubbock, Tex.

I. H. Munroe is new assistant to the executive vice president of Allied Chemical & Dye Corp.'s Solvey Process Division.

Paul L. Salzburg has been named director of DuPont's chemical department. He succeeds the late Cole Coolidge.

A new loose-leaf guide, "Manual for Vendors and Fillers of Aerosols and Pressurized Packages," prepared by The Chemical Specialties Manufacturers Association's Aerosol Division, now is available. Copies may be obtained from CSMA, 110 E. 42nd St., New York City 17.

Federal Chemical Co., of Meridian, Miss,. has been purchased by The Mississippi Federated Cooperatives. Federal will continue operations with its present personnel.

W. F. Mulvaney has been named supervisor of multiwall paper bag sales for Bemis Bro. Bag Co., and K. W. Koechig, supervisor of small paper bag sales.

New general manager of Bradley Pulverizer Co.'s Allentown, Pa. plant is Peter B. Bradley. He succeeds the late William A. Gibson.

Harold E. Hamby is new district manager of Chilean Nitrate Sales Corp.'s Shreveport, La. office. Hamby formerly served the sales organization in Georgia.

Chase Bag Co. recently named J. R. Peat sales manager of its St. Louis branch. Prior to his promotion, he was a sales representative at St. Louis.

A Polyvinyl chloride resin plant formally has been opened at Lecheria, Mex., by Monsanto Mexicana, S. A., a wholly owned subsidiary of Monsanto Chemical Co.

Process Industries Engineers, Inc. has appointed Marple Organization, of Philadelphia, its representative in Eastern Pennsylvania and the seaboard states below New York.

CALENDAR

Sept. 9—Synthetic Organic Chem. Mfrs. Assn. Meeting, New York.
Sept. 9-11—NAC 20th Anniv. meeting, Spring Lake, N. J.
Sept. 16—Efficient Lime, Fert. Usage Meeting, Richmond, Va.
Oct. 12-14—Assn. of Offic. Ag. Chemists Meeting, Washington, D. C.
Oct. 16—Assn. of American Fert. Cont. Officials Meeting, Washington, D. C.

Spencer L. Lott, controller, Smith-Douglass Co., of Norfolk, Va., has been elected a director of Richmond Control of Controllers Institute of America.

The Houston, Tex. fertilizer sales office of Phillips Chemical Co. recently moved to 1020 East Holcombe Boulevard. Manager of the Houston fertilizer sales district is R. D. Evans.

A million-dollar chemical plant will be built by Virginia-Carolina Chemical Corp. near the atomic energy installations outside Cincinnati, O. according to present company plans. The plant is expected to produce phosphoric acid, sodium tripolyphosphate and other sodium phosphates.

Wayne M. Waller is new manager of H. J. Baker & Bro.'s Baltimore branch, according to an announcement by H. V. B. Smith.

Waller

Waller owns and manages an Iowa farm and has fostered programs for encouragement of better land usage and lower production costs. During World War II he instructed Air Force pilots and since 1932 has been associated with the feed industry.

A. J. Dirksen has joined the sales development department of American Potash & Chemical Corp. as eastern representative. Formerly he was associated with Phillips Petroleum Co.'s market development division.

Two Hercules Powder Co. employes, LeRoy Keane, director of sales, and Harry V. Chase, director of operations of the company's explosives department, have been named assistant general managers of the department.

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Farm Chemicals

Washington Report

By Fred Bailey & John Harms

Key to farm income and industry sales in rural areas is to be held in federal hands for at least two more years. Decision was reached quietly at unpublicized White House meetings in closing days of congressional session.

Lower government price supports won't be sought by Republicans next year unless (1) there is decided pickup in farm markets, or (2) a new, sure-fire method of maintaining prices is found.

Neither alternative is considered more than a remote possibility. Significant is comment of conservative Republican farm legislator after talk with Eisenhower: "The present (price) program will be continued and expanded if our field hearings don't produce something better."

Federal farm outlays are going against Administration grain, but feeling is farm recession . . . possibly setting off industry declines . . . would hurt still more. Congressional actions in adjournment windup underline prospects for more farm spending, instead of less.

Agricultural Department budget figure for current fiscal year of $720 million is $15½ million less than for 1952-53, but total spending could top $2 billion. Main reason is anticipated heavy losses in price-support operations.

Work on chemicals will be stepped up with $2 million increase in research funds voted for USDA and state experiment stations. Examples: Bureau of Entomology, $94,000 extra; Bureau of Plant Industry, Soil & Engineering, $635,000 more.

Upwards of $80,000 more than last year goes to latter Bureau "to advance practices for chemical defoliation of cotton" and pre-emergence chemical treatment of weeds. Speed-up is planned, say researchers, in field tests of "a family of chemical compounds that have been found to be very selective in killing weeds."

Industry and farm researchers already are cooperating in use of a rapid technique . . . developed in Arkansas . . . for determining the effectiveness of defoliants. New procedure permits effective testing in laboratory in fraction of time needed for field experiments.

Federal lime and fertilizer payments to farmers next year will be reduced about one-third. That's the consensus now of Washington officials. Cutback of 20 per cent, over-all, in conservation payments is one reason. Second is new provision that in 1954 will rule out assistance unless lime is used by farmer "in connection with a soil-conserving crop".

Lime-fertilizer outlays still will be considerably more than wanted by Benson & Co. Joint congressional report on conservation appropriations . . . a virtual directive to the USDA . . . assures continuation of most lime and fertilizer practices. The lawmakers put it this way:

"Practices with permanent or semipermanent benefits should be encouraged, but . . . members of State and local committees are the best judges of what conservation

practices are most needed and most beneficial in their particular area . . . any catalog of approved practices should permit such determination by state and local committees . . . .

"The conference committee does not agree that payments be limited to those practices as suggested by the Department in ACP Memorandum No. 5."

Note: The memorandum the lawmakers had in mind called for sharp reduction in lime and fertilizer payments . . . which have accounted for 42 per cent of all conservation benefits in recent years.

USDA conservationists are not advertising the fact, but the congressional dictum forced a change in their catalogue of 1954 practices. The alteration gives states and local committees, instead of Washington, the final say-so on which soil and water practices will be approved for payment, and to whom.

The Miller pesticide bill, backed by industry and farm groups, will be revived at the next session of Congress . . . but don't count on final passage without changes. Earlier action was stymied by Food & Drug Administration officials who are still insisting on changes.

Fertilizer industry will be hurt little if any, officials insist, by likely cutback of some 20 per cent next year in wheat and cotton acreage . . . because of probable government controls over production. Main reasons cited are (1) substitution by most farmers on "lost" acreage of non-controlled cash crops other than cotton or wheat, and (2) increased fertilizer use per-acre to boost yields on reduced cotton, wheat land.

Removal of export controls over most chemical fertilizers is not expected to bring much increase in foreign sales. Export demand is to remain low because of European production gains and dollar shortages.

Only urea, ammonium nitrate and ammonium sulfate remain under license. Out from under are ammonium phosphates, nitrogenous chemical materials, normal phosphate, concentrated superphosphate, potassium chloride and sulfate, nitrogenous phosphatic fertilizers and prepared fertilizer mixtures.

Look for revived Agriculture Department interest in the fertilizer-use campaign started under ex-Secretary Charles Brannan. Benson has instructed his favorite USDA agency, the Extension Service, to take over the drive to boost farm fertilizer purchases. Extension committee appointed to get ball rolling is headed by L. R. Jones, ex-Extension Director in Mississippi.

Extension Service is to grow in importance as the best contact for selling of farm chemicals. Secretary Benson has endorsed a plan which will broaden the base of the Extension Service and expand the Service's farm advisory activities in each county . . . "to work directly with farm people, helping them to take unrelated research findings and fit them together so that they will work profitably on a particular farm."

Expansion of the Extension Service--a direct farmer-contact agency--is part of a larger plan to provide a "vigorous program of applied research" and "more adequate" basic research for agriculture. In line with expansion of farm research, major farm organizations are urging Benson to push for a $17 million increase in research funds for the 1955 appropriation. Much of this would go into chemicals work.

Reports coming in from abroad point to a brighter export trade picture for U.S. farm pesticides. Increased interest appears to be developing in some Asian, European and South American countries. Turkey, for example, is expected to bid for considerable pesticides after it is cleared to receive U.S. financial aid.

Production of sulfuric acid continues to soar . . . pointing to a possible record output this year. The steam behind the production comes from continued strong demand by the fertilizer industry and from steel.

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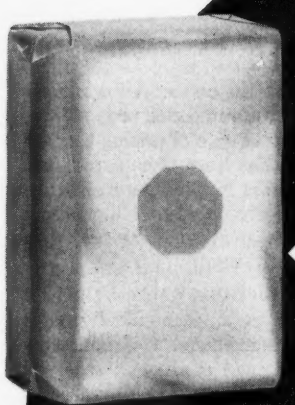

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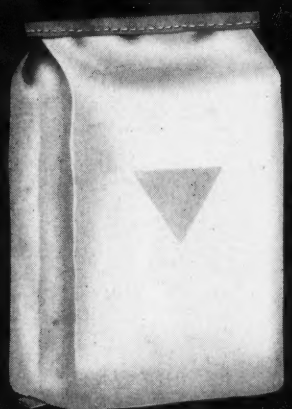

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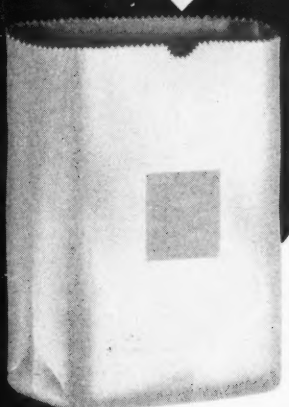

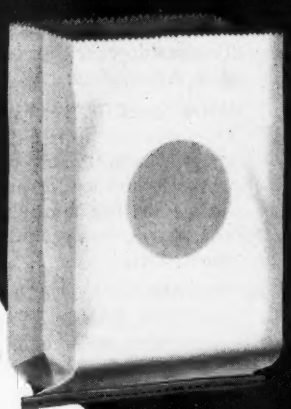

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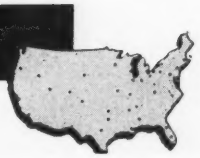

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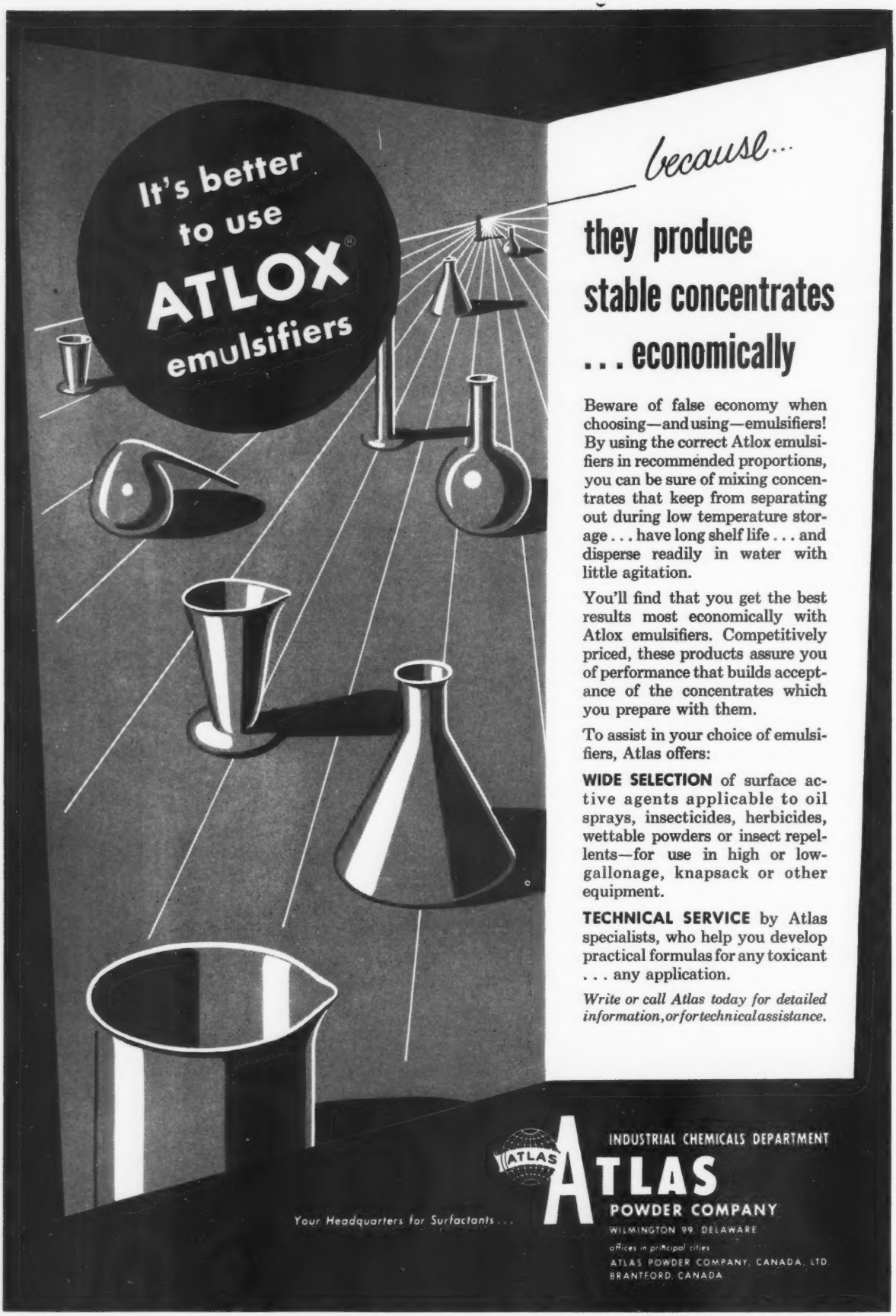

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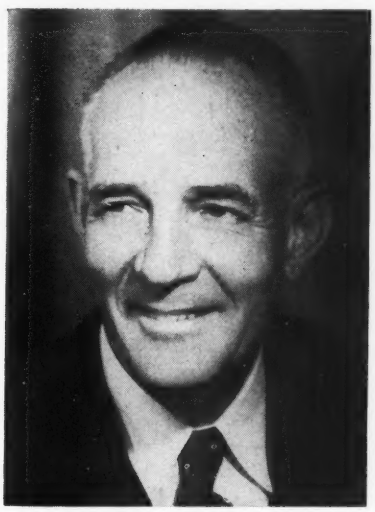
Guest Editorial:

NAC --- My Job As President

By Arthur W. Mohr



Arthur W. Mohr

AS I COMPLETE my two-year term as president of NAC I want to say that it has been an enjoyable experience although at times my association duties have required a substantial amount of time and travel.

Because the major portion of the association work is carried out by our full time executive secretary and his Washington staff and by our many committees I do not mean to imply that my efforts were more than a small part of the total activities.

The association operates on a truly democratic basis in that all guiding policies are determined by the board of directors which is elected by the membership at large. These policies sometimes are fairly broad so that quite frequently there is need of interpretation for a specific problem of immediate importance.

In such cases the president is consulted and if the situation seems clear cut, he will recommend procedure. If the question is of serious importance or of controversial nature, he will poll the directors for majority thinking before rendering a decision.

We have had to change our immediate objectives with the changing conditions and it has been the duty of the officers and the board frequently to reconsider our programs so that our efforts may be of the greatest possible value to industry.

DURING my two-year term it has been necessary to do a considerable amount of public relations work with government personnel and state officials, with members of allied industries and with regional association groups. Work with the latter people has been felt particularly important so that all segments of the industry put up a united front, especially on national problems or local ones which might have national implications.

Generally there is a single best way to attack every problem. The job is to combine everyone's thinking to determine that best method and then to arrive at an over-all concerted plan of action. In general, there has been good teamwork not only with regional groups but with other associations whose interests are common with ours.

IT IS ALWAYS the duty of the head of any organization to see that it is financially sound. Because of the shrinking value of the dollar and the need for some expansion in activities it was necessary to raise the association budget and increase the income. This has been accomplished by adding new members and readjusting the dues of the older membership for uniformity. The finance committee did a splendid job and deserves the real credit for our sound financial position.

With the severe deterioration of prices and profits in our industry the work of the association on many problems becomes more important. Probably the most important is the educational work to expand the use and markets of pesticides.

Success in this and other endeavors will minimize costs at a time when all cost factors are of greater consequence to industry than during the more prosperous times of previous years.

I want to express my sincere thanks to the many persons who have served so faithfully on our committees and to the Washington staff and particularly Lea Hitchner who now has completed 20 years of loyal service, because they are the ones who are truly responsible for the progress and success of NAC. ◆

The newest, best multiwall bags for valve-packing your fertilizer . . .

Bemis B-FLEX Valve Bags!

You should switch to Bemis B-FLEX promptly because . . .

1. LOWER BAG COSTS. You'll save up to $4 per thousand compared with conventional inner-sleeve valve bags.

2. LOWER PRODUCTION COSTS. Faster handling on your packing machines.

3. FASTER PACKING. Are jam-ups a problem? Not with Bemis B-FLEX. No flapping inner-sleeve to slow down material flow.

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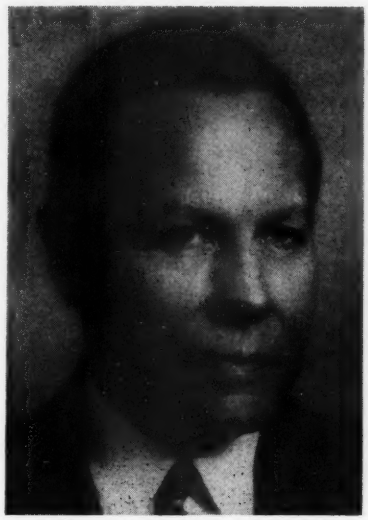
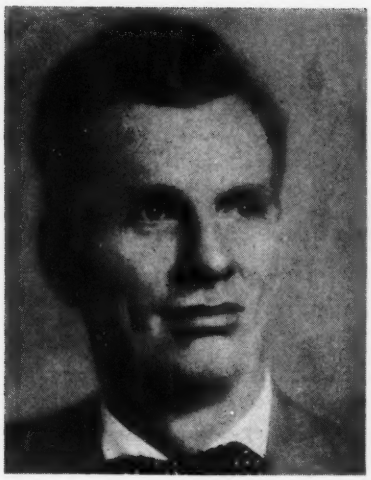
And, of course, you get the added benefit of Bemis' crisp, bright, multi-color printing — the finest printing your brand can have on multiwall bags.

Ask your Bemis Man for the complete B-FLEX story.

Bemis



J. Earl Coke



W. R. Allstetter

Joseph F. Battley

At Spring Lake Sept. 9-11:

NAC Celebrates 20th Anniversary

A RECORD attendance for the big 20th anniversary convention of the National Agricultural Chemicals Association was expected by association leaders as last minute preparations were made for the annual meeting at Spring Lake, N. J.

Once again the Essex and Sussex Hotel, on the beachfront of the Atlantic Ocean, was set to be headquarters for the three-day sessions Sept. 9, 10 and 11, but convention meetings will be alternated between that hotel and the nearby Monmouth, which, in previous years, was used only to house overflow delegates.

Program Change

Only change in the program for the NAC convention program, as reported in FARM CHEMICALS last month, was addition of Charles P. Harding to the panel on fertilizer-pesticides mixtures.

Harding is general manager of the manufacturing department of Virginia-Carolina Chemical Co.

The panel promises to be one of the highlights of the convention, the twentieth since the Agricultural Insecticide and Fungicide Association, former name of the group, was organized in 1933.

Other members of the panel are the following:

Dr. M. D. Farrar, head of the Department of Entomology, Clemson Agricultural College; Dr. Rodney C. Berry, state chemist, Virginia Department of Agriculture; Dr. C. C. Compton, Julius Hyman Div., Shell Chemical Corp. and Eugene Ordas, head of the product development division of Velsicol Corp.

Dr. L. Gordon Utter, Diamond Alkali Organic Chemicals Div. Inc., will preside at the panel, scheduled for Thursday at 10 a.m.

Delegates to the convention will get their first chance to hear an address by an official of the new administration when J. Earl Coke makes some "USDA Observations"

George P. Larrick

George L. McNew

NAC PROGRAM

WEDNESDAY

10:00 a.m. Opening of the Convention. PAUL MAYFIELD presiding.
Address by NAC Pres. ARTHUR W. MOHR.

10:20 a.m. Secretary's report, LEA S. HITCHNER.

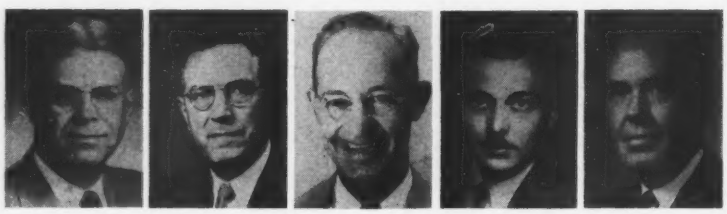
10:30 a.m. "Merchandising Chemicals for the American Farmer," W. R. ALLETETTER, vice president, National Fertilizer Association.

10:50 a.m. "Trade Associations," Brigadier General JOSEPH F. BATTLEY, president, National Paint and Lacquer Association.

11:10 a.m. "USDA Observations," J. EARL COKE, Assistant Secretary of Agriculture.

6:30 p.m. Reception.

THURSDAY



Compton Farrar Berry Ordas Harding

10:00 a.m. Panel—"Fertilizer-Pesticides Mixtures," Dr. L. GORDON UTTER, presiding. Panel: Dr. M. D. FARRAR, head, Department of Entomology, Clemson Agricultural College; EUGENE ORDAS, Head, Product Development Division, Velsicol Corp.; Dr. RODNEY C. BERRY, state chemist, Va. Dept. of Agriculture; Dr. C. C. COMPTON, Julius Hyman Div., Shell Chemical Corp. and CHARLES F. HARDING, general manager, Mfg. Dept., Virginia-Carolina Chemical Co.

Afternoon Golf Tournament.

7:00 p.m. Annual Banquet.

FRIDAY

10:00 a.m. General meeting. ARTHUR W. MOHR, presiding officer.
"Fungicides and Agriculture," Dr. GEORGE L. McNEW, director, Boyce Thompson Institute.

10:20 a.m. "Pesticides Registration," RICHARD O. WHITE, chief, Registration Section, Livestock Branch, PMA.

10:40 a.m. "F.D.A. and the Industry," GEORGE P. LARRICK, deputy commissioner, Food and Drug Administration, Dept. of Health, Education and Welfare.

11:00 a.m. Informal session. NAC staff and counsel discuss association and industry problems.

Dr. Paul Mayfield

Wednesday at 11:10 a.m. Coke is assistant secretary of agriculture.

Lea Hitchner, who will give his yearly report as executive secretary of NAC (he has been associated with the organization since its beginnings) has announced that special recognition to the anniversary of the association will be given throughout the three days of sessions.

President's Report

Arthur W. Mohr, NAC president, will report to delegates Friday at 10 a.m. on the activities of the past year.

Other talks, by government and industry leaders, will fill out the excellent schedule for the convention.

After the morning business sessions, afternoons will be free for bathing, golf and tennis. The annual golf tournament is scheduled for Thursday afternoon.

The banquet, highlighting the session, will be held Thursday evening in the Monmouth Hotel dining room.

Another feature of the convention will be an informal meeting at 11 a.m. on the final day, at which members will be given an opportunity to discuss problems of product liability and legislation with NAC staff and counsel members.

Howard Grady and Eugene Perrin will report on the cooperative promotion program with the National Sprayer and Duster Association.

Complete program for the convention is printed on this page. ◆

1933 - 1953 . . .

The First 20 Years:

NAC's Record of Service

By Val E. Weyl

Editor, NAC News

THE success or failure of a trade association is based on the necessity for services which only a trade association can perform for its members. The establishment of the National Agricultural Chemicals Association, as it is known today, was subject to the trials of association development, influenced by the peculiarities of the time.

The idea of an association of individuals or industries is nothing new. The pages of history are full of the influence of various types of associations on social customs and legislative development, and vice versa. The trade association in America, however, has grown into a unique organization due to our laws which govern the particular conduct of one member of an industry to another and the action of a company toward the public. In the United States, our system of free enterprise not only protects and fosters competition, but declares competition mandatory.

The National Agricultural Chemicals Association has grown to be a spokesman for the pesticide industry and represents its members before various government agencies, national programs of endeavor, legislative and political bodies, farm groups and before the general public. Our Association, in its early development, had the usual fits and starts attendant on the growth of any organization.

Val E. Weyl

One thing which makes the Association history of interest is the many factors which influence servicing the market of these particular chemicals—a market which is dependent on nature's vicissitudes and one which is highly seasonal in demand.

Following the passage of the Insecticide Act of 1910, considerable interest was manifested by the early manufacturers of insecticides and fungicides in the formation of an association to represent the entire industry and to develop the markets for these chemical products. It appears from the early history of these activities that the time was just not right to establish a firm, working organization. The early 1900's marked the emergence of an industry which was reaching economic importance, and the first effective drive to establish a working trade association did not begin until the early 1920's.

Under the able direction of Ernest T. Trigg, president of John Lucas and Company, Philadelphia, some 26 manufacturers of pesticides met July 15, 1924, in Philadelphia to organize the Agricultural Insecticide and Fungicide Manufacturers' Association.

Many familiar names appear on the record of that early date, indicating that there was broad interest in the formation of the association. They included: John Lucas & Co.; Sherwin-Williams Co.; Chipman Chemical Engineering Co.; Glidden Co.; Grasselli Chemical Co.; A. B. Ansbacher & Co., Inc.; Interstate Chemical Co.; Riches Piver Co.; Kiltone Co.; Devoe & Raynolds, Co., Inc.; Niagara Sprayer Co.; F. L. Lavanburg & Co.; Stratford Chemical Co.; Standard Chemical Co.; Bowker Chemical Co.; James A. Blanchard Co.; Dow Chemical Co.; Commercial Chemical Co.; Nitrate Agencies; Gulf States Fertilizer Co.; and Pfeiffer Color Co.

Also present was A. E. Foote, representing Secretary Hoover of the Department of Commerce, and Harry J. Schnell, vice president and general manager of Oil, Paint & Drug Reporter.

Following the organization and the adoption of Association rules, Trigg was elected president, Thomas S. Grasselli, vice president and Schnell, treasurer.

The A.I.F.M.A. functioned as a representative of the industry for several years but its effectiveness was considerably handicapped by lack of offices and a paid staff to

conduct Association affairs. Without this coordination and continuous personnel, activities of the Association dwindled to almost a virtual standstill by 1930. From 1930 to 1932 negotiations were put into effect to merge the A.I.F.M.A. into the Manufacturing Chemists' Association. Final action on this plan was completed in 1932.

M.C.A. established an insecticide committee within its organization to handle affairs dealing with insecticides and fungicides and elected Lea S. Hitchner, of John Lucas & Co., as the first chairman. The record shows that under the able direction of Hitchner, the committee was very active and there is every indication to believe that the roots of the present NAC Association found nourishment in this insecticide committee.

The committee was responsible in large part for the foundation of a strong association to represent the pesticide industry and took definite steps toward organizing such a body at Atlantic City, Aug. 22, 1933. At this meeting some 41 industry representatives and several members from the National Recovery Administration met to establish a code authority under which the industry could operate as provided by the National Recovery Act.

Under the name of the Agricultural Insecticide and Fungicide Association, incorporation was completed on Jan. 18, 1934. Signers of the charter were Howard Mansfield, George Riches, Joseph B. Cary, R. N. Chipman and Hitchner. Incorporation was obtained at Dover, Del., Feb. 28, 1934.

First official meeting of the Agricultural Insecticide and Fungicide Association was held March 5, 1934, at which time Hitchner was elected president and treasurer, R. K. Vickery of California Spray-Chemical Corp. was elected vice president, R. N. Chipman, Chipman Chemical Co., was named chairman of the board of directors and June Heitzman was appointed secretary. Offices were opened Jan. 24, 1934, in New York City.

The following companies were members of the Association as of March 5, 1934: American Nicotine Co., Chipman Chemical Co., Latimer-Goodwin Co., National Sulphur Co., Sherwin-Williams Co., Pittsburgh Plate Glass Co., John Powell & Co., Bowker Chemical Co., Grasselli Chemical Co., Mechling Brothers Chemical Co., New York Insecticide Co., Tobacco By-Products Chemical Co., California Spray-Chemical Co., and The Dow Chemical Co.

The A.I.F. Association continued to expand under the auspices of the N.R.A. Code during the years when the nation's economy was recovering from the 1929 debacle. The initial group of members which joined the Association consisted largely of manufacturers of basic chemicals and did not include formulators or remixers or other branches of the chemical industry servicing the pesticides manufacturers. Dues for membership consisted of a nominal fee plus a percentage of gross sales per annum.

What part do NAC members play in the production of chemicals for the farm?

That question is answered in figures reported by the Association. According to NAC headquarters, members of the Association produce more than 85 per cent of the basic pesticidal chemicals and more than 60 per cent of the formulated pesticides in the United States each year.

It soon became obvious that this method of dues was unsatisfactory from the standpoint that it could give the largest contributors too much domination of the activities of the Association. By-laws were amended to eliminate this discrepancy in the equitable participation of its membership. The soundness of changing the by-laws is reflected in the growth and expansion of the Association.

Contributing to the success of the present Association is the method of conducting its business through participation of its members on the board of directors and on various committees set up to guide the Association staff in the execution of its policies.

Originally the president of the Association was the only paid officer with other officers and members contributing services free of charge. In order to give more flexibility to the Association's operations, the paid member of the staff later was given the title of executive secretary and the officers and board of directors were elected from the industry. These changes were instituted under the original A.I.F. Association and have been retained under the present NAC Association.

Much of the progress of the NAC Association can be credited to the ability of its members and staff to recognize changing conditions and adapt their activities to meet those changing conditions, effectively. From the early 1900's to 1945, development in the control of agricultural pests was quite static and limited largely to the improvement of the techniques of application of materials discovered at a considerably early date.

Revolutionary organic chemicals introduced during the second World War expanded the field of pest control beyond the imagination of earlier workers. So many new products were introduced that the name, Agricultural Insecticide and Fungicide Association, no longer encompassed the entire activities of the Industry.

To correct this situation the name was changed in 1949 to its present form, National Agricultural Chemicals Association. At the same time the Association recognized that the seat of information would continue to be in Washington, D. C., and during that year the NAC offices were transferred to the nation's capital from New York City.

At the present time the Association operates through an executive secretary, elected officers and numerous committees to study and recommend action on various phases of industry activities. The members of the board of directors are elected for terms of five years with overlapping terms in order to retain a substantial nucleus of individuals who are familiar with Association's work. Election of three of 15 of the board members is conducted each year. Members of the board of directors elect a president and vice president and the executive secretary.

All information and recommendations supplied by various committees receive final action by the

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DIAMOND'S facilities for manufacturing and distributing agricultural chemicals for weed control, brush control and insect control assure formulator of pesticides a *dependable* source of supply for these important materials.

DIAMOND ALKALI COMPANY, long associated with high quality chemicals, is one of the world's largest manufacturers of basic herbicides and insecticides. The name DIAMOND itself is your automatic assurance of the best the market has to offer. Write for literature — and use our technical consulting service for your special problem. Your inquiries are welcome.

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DDT	100% Technical
LINDANE	99% Gamma Isomer of BHC
BHC	90% Technical
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2,4-D and 2,4,5-T	Weed & Brush Killers Isopropyl Esters Butyl Esters Butoxy Ethoxy Propanol Esters (low volatile type)
K-101	Acaricide
HEXACHLORO-BENZENE	Seed Disinfectant

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board of directors and the officers. The mechanics of carrying out these recommendations is performed by a paid staff, including the executive secretary, a technical adviser, a publicity director, an office manager and clerical assistants.

When a matter of interest to the industry arises, first consideration is given it by an appropriate committee consisting of specialists appointed by the president. Members of these committees are selected from the staffs of member companies who contribute their services without pay.

The committees act as working groups to promote a broad program of furthering better control of pests through the use of chemicals and the ultimate benefit of these actions toward raising the standard of living in this country and abroad. One of the objectives of the Association is to stimulate and sponsor laboratory and field research in chemicals, equipment and the safer use of products.

The Association also acts as a liaison between the industry and the U. S. Department of Agriculture, agricultural colleges and the Department of Health, Education and Welfare. The Association also seeks to cooperate with independent laboratories, scientific groups, individuals and associate industries to promote safer and better control of pests affecting man and his food, feed and fiber crops.

NAC Association objectively acts as a screening and coordinating center out of which arises an educational program to advise its members and leaders of agriculture of activities pertinent to the field of pest control.

The Legislative committee makes a continuing and intensive study of all proposed and existing state and federal legislation involving the manufacture, sale, distribution and use of agricultural chemicals not including fertilizers. Their function is to make analyses and proposals to promote realistic and practicable laws affecting the industry's products. Closely associated with the Legislative committee is a Lawyers committee which interprets and drafts legislation as required. This committee advises the Association on various legal matters of interest to the industry.

Members of the Technical Advisory committee are selected for their ability to advise the Association on problems of entomology, plant pathology, chemistry, medicine, agriculture and production. Numerous subcommittees of this group are appointed by the committee chairman to study and advise on specific phases of technical information required by the Technical Advisory committee.

Widespread activities of NAC naturally can't all be handled by the Washington staff. Taking care of a multitude of duties concerned with the pesticide industry are the following committees, staffed by industry members who serve without pay: finance, foreign trade, information, information advisory, lawyers, legislative, membership, Southern, technical advisory and traffic.

Members of the NAC staff act as liaison between the various committees until the various matters coming before them have been acted upon. Recommendations of the committees are sent to the board of directors for consideration.

As problems arise, special committees are appointed by the board of directors to search out facts and make proposals on a specific subject. Several such committees are at present in operation: BHC committee, DDT committee and the 2,4-D committee.

One of the first committees to be established by the Association was the Traffic committee which still is very active and very important to the industry. This committee represents the industry before agencies which have the authority to regulate rates and other transportation regulations concerning the shipment of the industry's products in local and interstate commerce.

The Information committee is considered by the Association as a "Junior Board of Directors". It acts both as a coordinating and screening committee and sets up broad programs of action to propose to the board of directors. In effect, the members advise the best methods to use in disseminating the information which is collected from the many committees of the Association. Closely associated with the Information committee is the Information Advisory committee made up of a group of specialists to act as consultants to the Information committee.

One of the most recent committees set up by the Association is the Foreign Trade committee which was organized in 1952. Interest in the markets abroad brought to light the fact that nearly 100 agencies have an interest in the export of pest control chemicals. To bring to our members a coordinated source for information, the Foreign Trade committee was established. The committee also acts as liaison for the industry before government agencies and world bodies engaged in the control of pests.

A particularly large percentage of our industry's products are used in the southern part of the United States. In 1952 a committee, called the Southern committee, was established to study and report on problems of regional importance and submit proposals to the board of directors for Association action.

Connected with its service to the members of the Association, two primary functions occupy the largest portion of the time of the paid staff and the committee work. These two activities are the continual study of legislative and other action by state and federal governments and the broad industry program of educating the public and agriculturists concerning the use of pesticides.

Nearly every state has some laws pertaining to the marketing and use of our products which must be considered by our members. On the federal level the shipment and use of our products are regulated by the Federal Insecticide, Fungicide and Rodenticide Act of 1947 and the Federal Food, Drug and Cosmetic Act of 1938.

So complex have these state and federal regulations and laws become, that the Association found it necessary to compile and keep current a comprehensive guide to the laws affecting our Industry. Membership in the Association entitles each company to this guide and many other features in market-

ing products from a legislative standpoint.

The Association maintains a bulletin service for its membership to advise them promptly of any action which may affect their business and to inform them of action taken or about to be taken by the Association. In addition, the Association publishes and mails out, free of charge, the *NAC News* covering activities of the entire field of weed control, insect control, plant disease control, defoliation of crops for harvesting of food, feed and fiber and their use in public health programs.

Broad Program

A broad program of informing the general public and the leaders of agriculture is constantly maintained. The Association sponsors a Speakers Bureau made up of members of the industry who volunteer to present addresses before various organized groups throughout the United States. A press service operates as an outlet for news concerning the industry and its relationship to agriculture, for the Association's activities, and as a source of information for radio programs, magazine articles and other publications.

The value of the services of NAC Association were repeatedly demonstrated during the last war when stress was placed on our national resources and transportation facilities. Working through its committees, the Association was able to devise programs of alternate uses of chemicals to protect fully our crops and to keep the farmer supplied.

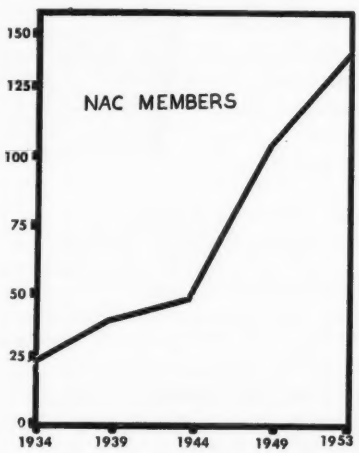
It was necessary for our phase of the chemical industry to compete with other important industries for basic chemicals and for equipment for transporting our products. The coordinated action of the Association was a vital part of keeping our agricultural production adequate.

As a measure of success and maturity of the Association, the growth in membership can be cited. Beginning with the initial members, totaling 14, there are now one hundred and forty members of the pesticide industry who receive services from NAC. Originally, membership was limited to manufacturers of insecticides, fungicides, herbicides, rodenticides, defoliants, dessicants and similar agricultural chemicals.

Registration is a big job at any NAC convention. Here Val E. Weyl, center, watches L. H. Grobe, of NAC, and Inez Gibson, New Orleans Chamber of Commerce, register guests at this year's spring meeting.

As the industry grew, membership eligibility was expanded to include those concerns engaged in formulating or remixing the basic chemicals into finished products. It also includes manufacturers and suppliers of other materials such as clays, solvents, and surface active agents, and other phases of the industry servicing the production of pesticides.

Two meetings of the Association



are held each year—the regular annual meeting convenes immediately following the season's activities, and is held on the east coast. The spring meeting preceding the season's activities is held in various sections of the country in order that representatives of the member companies do not have so far to travel. In addition, the activities of the Association are brought to the attention of the public in particular agricultural areas.

During these meetings members have the opportunity to discuss their common problems and to enjoy social activities. Formal sessions are held during which principal leaders and experts in the field of chemicals and agricultural production are asked to address the group. In this manner, members are kept informed of new developments and trends in industry and agriculture. These meetings have served to bring about a closely-knit organization which is well informed from the standpoint of production, marketing, and uses of pesticides.

Sound Management

Through sound management and first class service, NAC Association has come to be recognized by the press, government agencies, by scientists and members of the industry as the principal spokesman for producers of chemicals used to control agricultural pests. It has taken 20 years to arrive at this status and there is much left to be accomplished. As long as the caliber of personnel who have participated in the development of the Association continue to serve on the committees, the board of directors and as officers, the Association will be assured of continued progress and growth. ◆

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TENNESSEE TRI-BASIC COPPER SULPHATE

Tri-Basic Copper Sulphate is a chemically stable copper fungicide containing not less than 53% metallic copper. TRI-BASIC Copper Sulphate can be used as a spray or dust on practically all truck crops and citrus crops. Control persistent fungus diseases—correct copper deficiencies from a nutritional standpoint.

COP-O-ZINK NEUTRAL COPPER-ZINC

Cop-O-Zink is a neutral copper-zinc fungicide containing 42% copper and 11% zinc. COP-O-ZINK gives superior performance in control of fungus diseases. COP-O-ZINK'S composition of two essential elements gives it added value in correcting deficiencies of zinc and copper and in stimulating plant growth. COP-O-ZINK is compatible with all inorganic and organic insecticides. No lime is required. For use in spraying or dusting.

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Microgel contains 50% copper as metallic and is chemically stable. Can be used most effectively on all truck crops—also grapes, citrus fruits, melons and strawberries. MICROGEL is simple to use. It can be added directly to spray tanks, saving time and labor.

NU-M NUTRITIONAL MANGANESE

Nu-M contains 41% manganese as metallic and can be used as a nutritional material in either spray or dust form. Nu-M corrects manganese deficiencies.

NU-Z NUTRITIONAL ZINC

Nu-Z contains 52% metallic zinc. It is composed of exceedingly fine particles which readily suspend in water for spray purposes. Requires no lime for direct plant application. Correct zinc deficiencies with Nu-Z.

Copper-based fungicides have proven to be the most effective fungicides for control of persistent fungus diseases, including blight. Why take a chance on fungicides less potent than copper? We are basic producers of copper and can furnish copper mixtures to your specifications in large or small quantities. Copper fungicides bearing the TC label . . . mean control at it's best!

MINERAL SALTS

Minerals are just as essential to healthy plant growth and optimum production of vitamin-rich crops as are nitrogen, potash and phosphate. Mineralized fertilizer stimulates sales and creates new business because the results are conclusive. Fertilizers that give superior results are the fertilizers that the growers buy.

As basic producers of minerals, we would like to discuss mineralized fertilizer with you and show you how to increase your fertilizer tonnage and profits by the addition of minerals.

We can supply mineral mixtures to your own specifications in large or small quantities.

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- ZINC SULPHATE
- MANGANESE SULPHATE
- MAGNESIUM SULPHATE
- BORON
- FERRIC IRON SULPHATE

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Lea Hitchner, a leading spokesman for NAC since 'way back in 1933, says

I Remember...

Lea S. Hitchner

By Lea S. Hitchner
NAC Executive Secretary

YES, I remember! But reminiscences served up on a platter of historical facts and garnished with hindsight, seldom have much value unless they nourish progress. In the history of the pesticides industry lies a wealth of neglected experience which we have failed to place in the proper perspective and use profitably during the recent period of expansion.

With the pesticide industry growing so rapidly we often fail to realize that our problems are rooted in the past. We have many new faces, new production techniques, new research facilities and new chemicals and uses, but the economic problems of the industry are fundamentally the same as those we faced 20 years ago, and more. Many of the older executives in the pesticide industry will bear me out on this point, I am certain.

I have heard about these problems continually over many years:

1. improving techniques of production;
2. quality control;
3. container standardization;
4. transportation;
5. costly warehousing;
6. tariffs;
7. early orders;
8. credit studies;
9. legislative handicaps and
10. taxes.

It is true that these problems have increased in complexity due to the wider scope of the industry and the use of our products in fields far removed from those in which pesticides were employed twenty years ago. But the answer to these problems lies in the same type of cooperative endeavor, although the difficulty of their solution has increased proportionately to their complexity.

Representing Industry

At the present time I am engaged in representing the pesticide industry before legislative bodies on the federal level which have proposed legislation affecting our products. This situation is not new. It is a re-ringing of the same old bell. Before I became associated with this industry the first act regulating the sale and use of our products was passed in 1910.

Although there was no industry association, the manufacturers of these products were represented at various hearings and conferences regarding the enactment of this bill. This initial precedent has been neither neglected nor destroyed over these 40 odd years of our industrial progress. But it must be a continuing program—one without let-up.

The revision of the 1910 act into the Federal Insecticide, Fungicide and Rodenticide Act of 1947 also found the industry represented before legislative groups. The Federal Food, Drug and Cosmetic Act of 1938 found us being included in entirely different laws which had bearing on our products. Although we took part in the drafting of these acts and submitted our views thereon, as an industry, we failed to see some of the broad implications in these legislative trends.

That is the reason we find ourselves in a position, once more, of contributing our time and our efforts toward having only practicable and sound legislation enacted. But since 1940, with our information program launched, real progress in legislation has been attained. If a like study had been made on other economic problems, similar results might be recorded.

No Real Change

The broader aspect of this same picture can easily be painted. Insect infestations, plant diseases, weeds, rodents and similar problems are no different basically than they were 30 to 40 years ago—they have been merely intensified as our agricultural system became intensified. We still witness terrible outbreaks of insects and diseases which destroy crops. We still find ourselves in a position of having to carry huge stocks in our warehouses in order to serve our market properly.

Permit me to point out a few instances where these situations occurred during the past 30 to 40 years—instances that we could have been cognizant of then, and which we fail to place in their proper perspective, today.

Prior to World War II, control of the cotton boll weevil was confined almost exclusively to the use of calcium arsenate. About every

Ernest Hart (center), Food Machinery & Chemical Corp. and G. F. Leonard (right), who recently retired from Tobacco By-Products & Chemical Corp., talk with A. H. Carter (left), Sherwin-Williams Co. of Canada at the association's spring meeting this year in New Orleans.

five years there was an over-production of calcium arsenate because Mother Nature proved contrary and insect populations did not develop. Subsequently, insecticides did not move and the product was sold at practically give-away prices—far below the cost of production. A parallel can be drawn with that situation and the one which occurred during 1951 and 1952.

A direct parallel can be drawn by the over-production of calcium arsenate shortly after its introduction and over-production following the introduction of organic pesticides. The interest and enthusiasm for the new organic materials, introduced following World War II, invited expansion of many new chemical companies into this field. Entering the pesticides business on the strength of new and expanded uses, many found themselves pushing their products uphill in a fully saturated market.

Investigation of the established history and customs of the industry and a sound market survey would certainly have influenced many decisions to enter the field. Our records are sufficient to forestall a great many of these economic problems, if they were put to use. Other problems have similar analogies in our early history.

Recent Criticism

In recent years the industry has undergone a considerable amount of criticism. Some individuals and groups feared that many of our food products were being adulterated by excessive residues of pesticides in sufficient quantity to cause harm to the public health.

Once the extremists were accepted, as such and their utterances placed in the proper perspective, measures were taken to correct the situation and to assure the public that our food products and their purity were secure. The first consideration of this problem arose during the early 1930's when residue tolerances were under consideration for lead and arsenic contained in lead arsenate used for protection of crops. The original fear that this material was contaminating our food was eliminated through proper consideration by the industry, the farmers and legislative bodies, and procedures were set up to control the residues on these products.

Parallel Setup

The situation for the newer materials which have been introduced since that time is exactly parallel at this date. During the past few years, the Association and the industry have taken part in discussions of this subject in various congressional hearings and have contributed their services in working out suitable legislation to encompass the newer materials and any residue questions that now exist.

During 1952 some members of the industry proposed to the Association that consideration be given to the advisability of standardizing formulations of pesticidal chemicals. This certainly was not a new proposal. Under the Insecticide Act of 1910, standards for some of the products, then being marketed, were actually written into law. Similar considerations were given to this question in 1939 and abandoned as not being practicable in this highly competitive industry with marketing conditions as they now exist. This question involves many legal and technical problems which can be resolved only by intensive study.

During the past few years the Association has discussed the advisability of instituting a service for a statistical survey and for an economic analysis. The need for these services was considered as

Pictured below are officers and directors of the National Agricultural Chemicals Association, elected at Spring Lake, N. J. last September. Standing, from left, E. H. Phillips, James McConnon, Russell B. Stoddard, August Petrus, Ernest Hart, Paul Mayfield, vice president, Byron P. Webster and J. Hallam Boyd. Sitting, from left, F. W. Hatch, W. W. Allen, Arthur W. Mohr, president, John Paul Jones, W. C. Bennett, George F. Leonard and Lea S. Hitchner, executive secretary. Elections again will be held this year.

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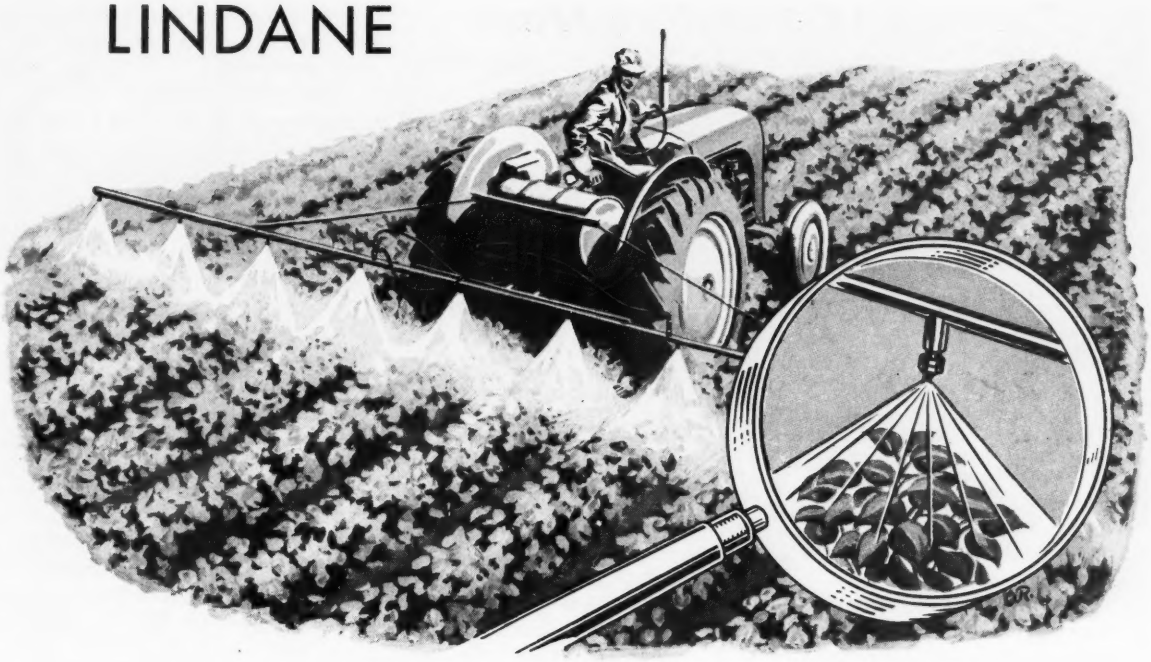

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Three NAC Leaders Meet

Two past presidents, G. F. Leonard and Ernest Hart, greet A. W. Mohr, president, at '52 spring meeting.

long ago as 1939. So far, these services have not yet been instituted.

Economic Importance

The economic importance of pesticides has given rise to wide-spread interest in their availability. Whenever shortages of these essential products develop, federal and state agencies attempt to assume the distribution of these products to the farmers.

This specter is constantly with the industry, yet the industry has kept the farmer fully supplied and maintained excessive stocks to do so. **Much of the difficulty of servicing the market on short notice could be overcome if farmers would buy early and if records of infestations of pests and plant disease infections over a long period of time were taken into consideration. By using this information judiciously, the manufacturer could arrive at a general trend which many of these pests tend to follow and plan his production accordingly.**

At the present time our industry is producing adequate quantities of farm chemicals to supply fully our domestic and foreign markets. Particular phases of production expansion during the past few years have been so great that we could supply from 25 to 100 per cent more in quantity than agriculturists now are using. We are facing the situation of having to develop markets which have thus far been neglected. Compounding this situation of a saturated market is the relatively rapid introduction of new chemicals which often replace chemicals already on the market, or, at least in part, act as alternative products.

Our failure to put to good use all of the mistakes and neglects of the past can not be laid at any one door. The situation has been caused partly by the rapid turnover in personnel during the past few years and the merging and falling out of many companies. For instance, of 14 company names which appeared in early records of the Association, only seven exist under the name which appeared then.

In addition, many of the most successful executives in the pesticide industry have moved on to occupy key positions in their company—a tribute to the pesticide industry. One of the prime considerations which must be given to the maintenance of the industry is the continuous development of competent administrative personnel.

Action Deferred

I do not wish to imply that there has been a lack of progress in all of these phases of development during the past 20 years. Such is not the case. Very often the time for action on some of these problems was not particularly propitious and until such time as there is a definite necessity or interest in a particular project, activity will naturally have to be deferred.

During my service with the NAC Association I have seen the pesticide industry grow from an output of a few hundred thousand pounds to more than one billion pounds production of basic chemicals. I have seen this phase of the chemical industry become highly specialized and develop into sufficient importance to be recognized as a separate entity. These are very encouraging events.

However, we do need to expand our markets to a point where our principal business activities and production are not crammed into the short period of 60 to 90 days. The development of the export markets helps, materially, to offset this seasonal period but much more can be done with the development of our domestic markets.

The introduction of new chemicals always opens up and expands uses of our products which, in turn, tends to level off production and marketing. Research activities on the part of the industry have reached some eight million dollars annually and with increasing interest in the pesticide market, even greater amounts may be invested in research.

Our continued participation in the drafting of legislation which is practical and sound will prevent our industry from being stymied by unnecessary and clumsy controls.

No Salesmen

For nearly 10 years it was not necessary for a salesman to really "sell" a product. Largely, it was a matter of taking orders. During this era, the art of salesmanship was not passed on from the veteran to novice and, at present, companies find themselves in a position of having to convene schools for salesmen to prepare them for a highly competitive market. Much progress in this respect has already been accomplished. Other problems are being attacked with similar spirit and increased knowledge.

My years with the pesticide industry and NAC Association have been highly gratifying. Enthusiasm of individuals engaged in this type of enterprise is without bounds and the cooperative spirit from a broad industry standpoint has given us the progress which we know today. The training required to operate this industry, largely by ear, is being passed on to the younger executives and as experience piles up and as the industry and NAC Association mature, progress will be increased proportionately. ◆

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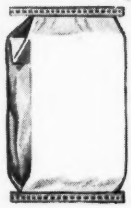

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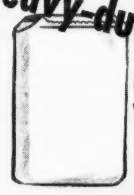

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Comments from Past NAC Presidents

R. N. CHIPMAN

Term: (Chairman of Board) 1934-40

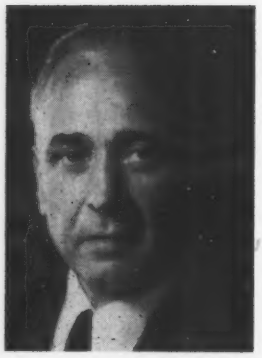
THE late evening was cool and the stars crossing a clear sky inspired one to reflect upon the better phases of years gone by. In this mood I recalled the request to comment on the 20th Anniversary of NAC and the changes which have taken place. The surprising result of this reflection was that I could not find many essential changes after the stabilizing advent of NAC in the early thirties.

It is true that great material progress has provided improved insecticides, fungicides, herbicides and methods of distribution. Tonnage has grown to important and impressive proportions. Chemical terminology has grown in complexity and somewhat irksome confusion, but the two most important and essential influences remain the same. I, of course refer to the fact that 2 plus 2 still make 4 and that Lea Hitchner is still the guiding force in NAC.

I stated that this beautiful evening caused me to reflect on the better phases of years gone by, but unfortunately these reflections ceased to disclose many pleasant reactions prior to the advent of Ernest Trigg in 1930 and Lea Hitchner, his disciple, in 1932. It was then that a desire for moral, ethical and constructive association of scientific interests was crystallized.

I aided Lea to interest industrial companies and governmental agencies to join the effort and he has remained the inspirational and guiding force existing today. Detailed statistics may be charted according to tonnage or dollar volume, but responsibility, integrity and wisdom must be basic elements in all progress.

I pray that the future members of NAC will elect and appoint presidents or executive secretaries who may continue to qualify for equal objectives and thereby implement progress from 1953 onward.



W. H. MOYER

Term: 1940-42

WHEN in 1940 I was called to the presidency of the Agricultural Insecticide & Fungicide Association something very near to panic existed in the industry with respect to association activities. This arose largely out of the transition from the N.R.A. to the subsequent era when activities required under N.R.A. became illegal overnight.

In this period of transition the vision of the late George Martin, of Sherwin-Williams, and the steady determination and courage of Lea Hitchner were of inestimable value in preserving the association and encouraging it to become a most constructive force.

I need hardly dwell upon the growth that has taken place in the industry, the greatly increased complexity of its products and activities as well as the greatly improved service it renders to agriculture.

The Association has been very ably developed, expanded and diversified to serve better not only the industry but also agriculture and the government agencies interested in fostering pest control.

It is now a fine and tested instrument for the correlation of efforts to the benefit of agriculture, government, industry and the public in general. The association has made great strides and is most certainly deserving of high praise.

Joseph B. CARY

Term: 1942-46

AS to changes in the pesticide world since the spring of 1946 when I retired as president of the NAC, a fair comment would be that it has so altered, expanded and has added so many new faces in the last seven years that it might well be a different industry that we are discussing.

By 1946 the debut of the two heavyweight organics, DDT and BHC aided by official sponsorship, had been accomplished with a speed and to a volume hitherto unknown in our field.

Since that time the swing away from the old inorganic pesticides has continued apace. Each season brings into commercial use a group of new inorganic insecticides as well as additional chemical companies entering the commercial pesticide market.

The reverse of the medal has been the build-up by the press of the dangers of poisoning from fruit and vegetables sprayed with these new organic pesticides, either directly or from the slow build-up of poisonous substances in the body. As a result, our industry has had to combat ill-considered federal and state legislation over long months of hearings and deliberations.

George F. LEONARD

Term: 1946-49

A PARTICULARLY interesting and progressive period in the control of agricultural pests occurred from 1946 to 1949, during the period when I had the privilege of being president of the National Agricultural Chemicals Association.

New pest control chemicals and entirely new methods for their application were adapted and found ready acceptance by our American farmers.

Our industry quickly recognized the potential and succeeded in rapidly expanding manufacturing plants to accommodate the new demand and to produce the new types of agricultural chemicals.

One of the biggest problems of the industry and of NAC was to get information on these new products into the hands of the farmer. It was a pleasure to be in a position to aid the program of education which did much, in my estimation, to accelerate progress in the control of pests attacking our crops.

Ernest HART

Term: 1949-51

THE National Agricultural Chemicals Association during the past two years has been faced with many difficult problems, most of which have been solved or are on the way to solution.

The creation of productive facilities for several major base pesticides has far out-run the consuming ability of the end user. This abnormal growth in productive capacity has largely resulted from the industry's attempt to cooperate with the government in meeting its figures on estimated domestic requirements due to the Korean emergency and to the unsettled world conditions. Another factor has been the relatively attractive profits which have been available in previous years on certain of these commodities which has stimulated interest on the part of many chemical companies to enter the farm chemical field.

This situation has been further aggravated by the current lack of important export volume and by the low rates of insect and disease damage in many important segments of the consuming areas. The net result has been a drastic softening of prices and a drying up of consumer advance buying because of the huge inventories which were accumulated by the industry.

Another difficult problem has been presented by a wave of restrictive legislation by the states which has required skill and energy to protect the normal processes of distribution and use of the products of the industry. A fine job of constructive and cooperative work has been done with the various states in this program.

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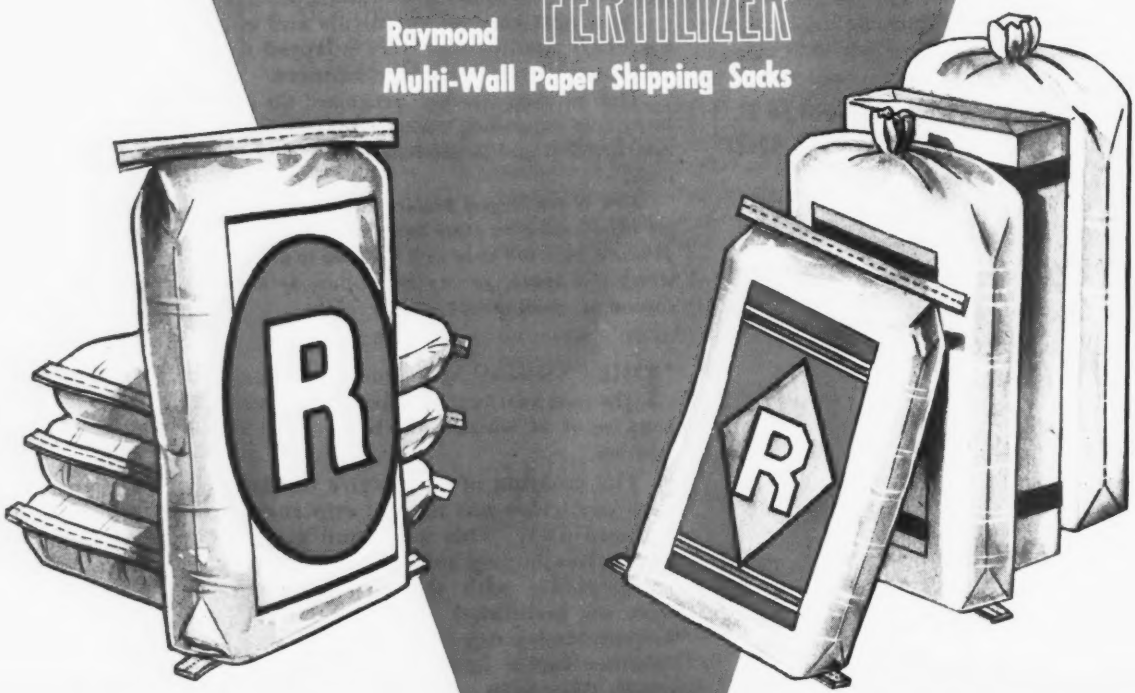

RAYMOND
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Keeping up with laws, state and federal, is a big job, so NAC acts as watchdog of

LEGISLATIVE ACTIVITIES

By Joseph A. Noone
NAC Technical Adviser

ONE OF THE more difficult problems facing the manufacturer of pesticides is complying with the numerous federal and state laws and regulations —sometimes conflicting—which control the introduction and marketing of his products. Each year brings forth new proposals which would further complicate and restrict his operations.

Recognizing the importance of legislation and regulatory control to members of the industry, the National Agricultural Chemicals Association carries on an active program designed to unify and coordinate existing controls and to safeguard the industry from unduly restrictive and burdensome legislation. That this program has been highly successful is widely recognized.

FARM CHEMICALS in its June 1953 editorial said, "*The NAC is doing an excellent job in its role as watchdog of federal and state legislation affecting the industry.*" Later, "*It was this expression of confidence in NAC that leads naturally to our third point—that the association is doing an excellent job of examining legislation, summarizing and evaluating it and relaying the information to its members.*"

Smooth Operation

This compliment can be justified only because of the smooth operation of a program which has been molded from years of experience. Through the activities of its various committees, particularly the Legislative and Lawyers committees, and the board of directors, the Association has a well-considered position on the various types of legislation encountered at the state level. This position is not one of opposition to all control of the industry and its products, but is a constructive one which recognizes the need for proper control free of undue burdens upon the industry.

Joseph A. Noone

Developed Slowly

Like most good things, particularly women, this program developed slowly. In 1941, the Association made the handling of legislation affecting agricultural chemicals a part of its program. Today it is one of its primary activities. As the number and complexity of the industry's products have increased, so, too, has the number of bills to regulate them.

As a basis for future operations, the Association in 1941 made its initial compilation of the federal and state laws directly affecting the industry and its products. This compilation has been kept up to date as the laws were amended or repealed or new laws enacted.

The operation of this legislative program offers a study in procedure.

Reporting Service

Through a commercial legislative reporting service, the Association receives copies of all bills introduced in the various state legislatures which affect or might affect the manufacture, distribution, sale or use of agricultural chemicals. All these bills are carefully reviewed and analyzed to determine their effect upon the industry and its products.

This analysis leads to a decision that the bill does not affect the industry directly, that it is in the best interests of the industry and should be supported, that it is fundamentally against the best interests of the industry, growers and the public and should be opposed in its entirety, or that it is objectionable in part and that efforts should be made to correct it by suitable amendments.

If it appears that other organizations may be interested in a bill, they are contacted and their views determined. When a common interest is found, arrangements are made for cooperation and coordination of efforts.

After the Association's position on a bill has been determined, the question then arises as to whether the Association office can and should handle the matter strictly on its own, whether it should enlist the

support of a few key companies with a special interest in the subject matter of the bill or the particular state where the bill is pending, or, whether the bill is of such fundamental importance that the whole industry should be alerted and its support of the Association's position solicited.

Most bills are handled by the first two methods. Only on rare occasions is it considered necessary to request all member companies to take an active part in the campaign for or against a bill.

When the Association decides to support or oppose a bill, its views are presented to members of the state legislature, usually, but not exclusively, by letter. Where the importance of the pending legislation warrants it, personal representations are made before the legislature and to the regulatory officials interested in the bill.

Visits Limited

It is physically impossible for the staff to visit personally each and every state where pertinent legislation is pending. Hence, judgment must be exercised to determine which bills require personal representation. The limitations on the ability of the staff to visit all states have been eased considerably by the cooperation of members of the Association who act for and appear on behalf of the Association as requested.

Whenever a law affecting farm chemicals is enacted, the full text of the law, together with a brief summary of the important provisions, is distributed to all members of the Association. If the law is a state pesticide act, another standardized summary of it is prepared and distributed to all members as an insert for the "Guide to the Laws Affecting Insecticides, Fungicides, Herbicides, Rodenticides and Related Products" which summarizes the important provisions of all the state laws affecting pesticides and which is kept current by such inserts.

NAC's activities are not restricted to legislative proposals. They extend also to regulations proposed or issued under various laws, the Association attempting to assure that such regulations conform to the law, are practicable and in the best interests of the general public, the grower, and the members of the industry. Such regulations are also reproduced and distributed, together with a summary of the important provisions, to all members.

While the Association's legislative activities have been predominantly at the state level, it has on several occasions found it necessary to support or oppose proposed federal legislation. Federal laws are particularly important not only because of their immediate effect upon the industry, but also because they set a pattern for future state legislation.

Reviewing legislation is one of the most important and time-consuming jobs handled by the National Agricultural Chemicals Association. Author Joseph A. Noone reports that NAC reviewed 42 state bills in 1941 to determine their potential impact upon members of the industry and their products. In 1945 the number was up to 117 and to date this year more than 225 bills have been reviewed. Approximately 50 of the latter were of sufficient importance to warrant the Association taking positive action to support, amend or defeat them.

Two Main Laws

There are two federal laws particularly applicable to the distribution and use of agricultural chemicals, the Federal Insecticide, Fungicide and Rodenticide Act of 1947, and the Federal Food, Drug and Cosmetic Act of 1938. Both of these laws had their roots in earlier legislation whose enactment antedated the organization of NAC.

The first federal legislation specifically covering pesticides was the Insecticide Act of 1910. This act covered only insecticides and fungicides and was essentially an economic measure to protect the farmer and the public against fraud and deception in the marketing of these products.

From time to time during the next 35 years, various proposals to amend the act were considered but none was adopted.

The introduction in 1945 of a great number of new farm chemicals with novel properties and uses directed attention to the idea of a new law of broader scope which would be able to cope with the problems posed by these materials.

Federal Law

First official step toward the enactment of a new federal law was taken on Nov. 28, 1945 with introduction of a bill which embraced rodenticides and devices as well as insecticides and fungicides and contained a provision for the annual registration of pesticides and the payment of an annual registration fee. In February 1946, the House Committee on Agriculture held public hearings on the bill.

Witnesses at the hearings, including the NAC spokesman, Lea S. Hitchner, unanimously agreed that there was need for new federal legislation, but the industry representatives objected to certain provisions of that bill.

A new bill was introduced on March 1, 1946. It was substantially the same as the earlier one except that it covered herbicides in addition to the other pesticides. The bill was unacceptable to the industry and failed to pass the Congress.

1947 Legislation

The bill that was eventually to become the Federal Insecticide, Fungicide and Rodenticide Act of 1947, H.R. 1237, was introduced on Jan. 23, 1947 by Congressman Andresen. This bill was patterned after the previous bills but was more acceptable to the industry. It provided for registration but did not require the payment of registration fees. Hitchner appeared at the public hearings held April 11, 1947 and expressed the Association's support for the bill. The Department of Agriculture advocated several amendments, one of which would require the payment of registration fees. Industry spokesmen opposed this amendment.

The House Committee on Agriculture reported H.R. 1237 with the recommendation that it pass with

certain amendments, the most important of which authorized the Secretary of Agriculture to cancel the registration of any economic poison after five years. This was a compromise on the annual registration advocated by the Department of Agriculture but opposed by NAC and other organizations. The amended bill was passed by Congress and approved on June 25, 1947.

From the time in 1945 when a new federal law was first proposed until it was finally enacted, NAC took a very active interest in the various proposals. The Association supported the principle of new legislation while trying to assure that it would not place an undue burden on the industry.

Association Influence

NAC's influence in eliminating or compromising objectionable features of the earlier bills from the law as enacted was very considerable.

Prior to the enactment of the Food and Drugs Act of 1906, there were no federal controls applicable to the use of pesticides in connection with food production. However, Section 7 of that act provided that a food was adulterated if it contained any added poisonous or deleterious substances which might render it injurious to health.

As the use of pesticides on food crops became more common, the Food and Drug Administration established unofficial tolerances for lead, arsenic and fluorine residues, indicating that it would consider food adulterated under the act if it contained residues in excess of these unofficial tolerances. The tolerances were too low to permit the use of pesticides in a manner considered necessary by the growers. The problem was sharply outlined as crops were seized and condemned because of excessive residues.

Residue Problem

Through the efforts of various farm groups with whom NAC consulted and cooperated, provision was made in the Food, Drug and Cosmetic Act of 1938 for a more realistic approach to the problem of pesticide residues. This law provides that when the Secretary of Health, Education, and Welfare finds, following a public hearing, that a pesticide is necessary in the production of food, he shall set a residue tolerance at a level which will protect the public health.

Currently in the national spotlight, as far as pesticide legislation is concerned, are Rep. A. L. Miller (R-Neb.), left, and Oveta Culp Hobby, Secretary of Health, Education and Welfare. Rep. Miller introduced a pesticide bill into the House of Representatives during the session recently closed with the backing of NAC. Madam Hobby expressed strong opposition to the bill at a committee hearing. For more details on the controversy, see the article in Farm Chemicals, August issue, page 75.

Experience has shown that this procedure is impracticable. It is not geared to present day realities of new products being constantly developed. NAC, in testifying before the Delaney committee, took the position that present legislation was adequate to protect the public but there was room to improve the administration of the law by providing for a simpler, more efficient method for setting tolerances. This position found support from many organizations with an interest in the agricultural field.

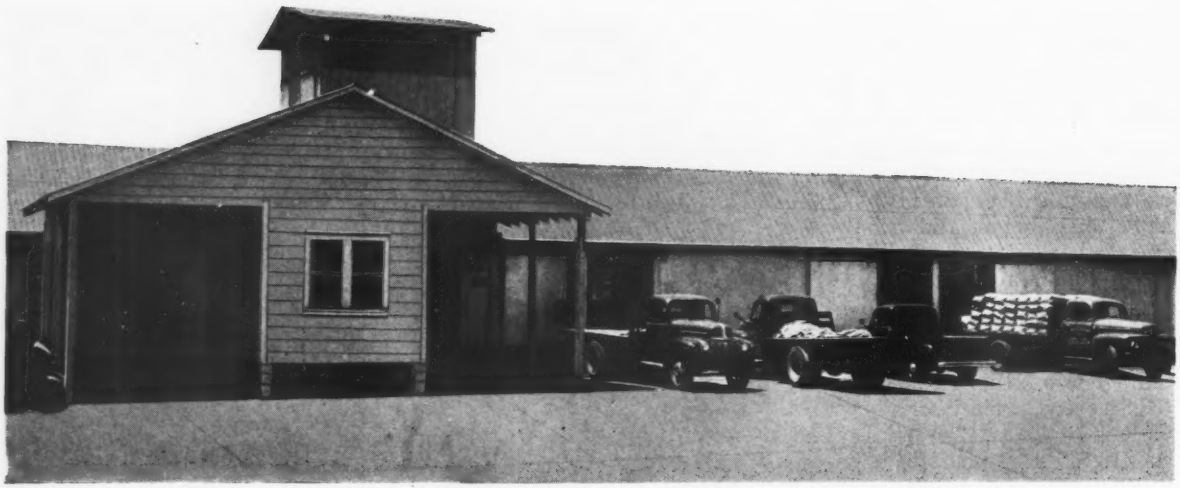
On Jan. 29, Congressman Delaney (D.-N. Y.) introduced a bill, H.R. 2245, patterned after the recommendations made to the Delaney Committee by Associate Commissioner C. W. Crawford, now Commissioner, of Food and Drugs. This bill would require that pesticides and other chemicals used in or on food be approved by the Food and Drug Administration before they were shipped in interstate commerce.

The Association has announced its opposition to the bill on the grounds that it does not recognize the differences between pesticides and other chemicals intentionally added to food and would make all research pertaining to pesticides intended for use in connection with food production subject to review and approval by the Food and Drug Administration.

On March 26, Congressman A. L. Miller (R.-Neb.) introduced a bill, H.R. 4277, which provides for the control of pesticide residues in a separate section of the Food, Drug and Cosmetic Act. It separates pesticides from other chemicals which might be added to food.

The Association has actively supported this bill. Hitchner appeared before a subcommittee of the House Interstate and Foreign Commerce Committee on July 14 advocating its approval with certain clarifying amendments. This bill had not been reported out of committee before Congress adjourned on Aug. 3. However, the Association will continue to work for its enactment in cooperation with other groups supporting it.

There is every reason to believe that the farm chemical industry and its products will continue to be the subject of many legislative proposals, both federal and state, in the years ahead. Accordingly, NAC expects to continue in its "role as watchdog of federal and state legislation affecting the industry." Its success to date in this role would not have been possible without the support and cooperation of its members. With their continued support and cooperation, greater success may be expected. ◆



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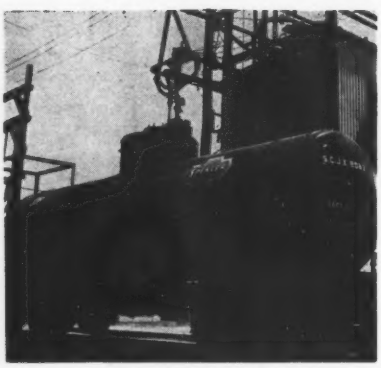

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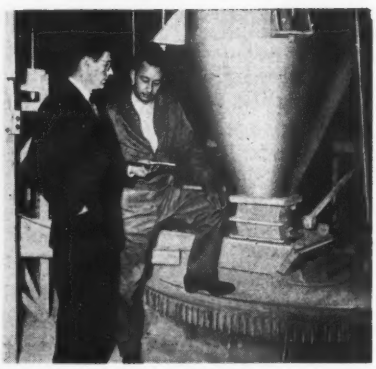

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3. Pyrenone Seed Protectant (Slurry), a wettable powder for application in slurry seed treating machines for protecting seed stocks or any stored grains.

Pyrenone-treated grain can be used for feed, or can be milled for food purposes, yet Pyrenone gives clean grain the protection which keeps weevils out. Help your farmers keep their grain clean on the farm by selling them Pyrenone Protectants – keep your own stored grain free of insect infestation by using Pyrenone Protectants, dry or slurry, in your own plant.

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What Other Trade Association Leaders Say:

Dr. Russell Coleman

ALL of us who have been following the course of American agriculture for many years are increasingly aware of one fact—that the farmers' hope for increased yields and profits does not depend on any single factor alone.

It lies in following a number of good farming practices, and to most of these the agricultural chemical industry makes major contributions.

Fertilizer, for instance, teams up with pesticides for greater corn production per acre. The same holds true for other crops.

It is for this reason that The National Fertilizer Association, one of the oldest trade groups in the Nation, wishes to extend hearty congratulations to the National Agricultural Chemicals Association on the celebration of its 20th Anniversary.

Both are partners in a common cause—a more efficient, a more productive and a more profitable agriculture.

No wonder the NAC has grown so fast and expanded its activities in recent years. The pesticide industry has jumped from a production value of $35 million in 1940 to $185 million last year, according to figures released by PMA.

Paul T. Truitt

ON BEHALF of the members of the American Plant Food Council, I congratulate the National Agricultural Chemicals Association on the occasion of its 20th anniversary.

The past 20 years present a picture of progress made through resourcefulness, foresight and teamwork which has been and continues characteristic of the National Agricultural Chemicals Association.

Although production records have been made and broken during these two decades, the farm chemicals industry is not resting on its accomplishments. It actively seeks new ways to improve its products, to find new and better methods to improve manufacturing and merchandising and its service to farmers.

By this fine example, we are encouraged and strengthened to meet the pressing need for more efficiency in farming and consequently to make the most of the opportunity offered by this industry to build an ever more prosperous agriculture. By no other way can we so effectively promote the national welfare and keep ourselves strong in a world which by and large is always hungry.

We of the American Plant Food Council wish for you new achievements in the next decade and express our appreciation for the accomplishments of the past.

S. B. Tatem

WE of the California Fertilizer Association congratulate the National Agricultural Chemical Association upon its 20th anniversary, to be celebrated at the annual convention at Spring Lake, New Jersey.

NAC members represent a very broad field of applied agricultural chemistry, and the Association's activities have contributed materially to America's high standard of living by developing farmer demand for their pesticides.

These materials, coupled with proper fertilization and other good cultural practices, have made possible the tremendous food and fiber production.

The California commercial fertilizer industry, represented by our CFA, has an almost family feeling toward the NAC and its members; first, because their efforts, coupled with our own, are contributing so much to the agricultural economy of California and the United States; second, because Arthur W. Mohr, who is the President of NAC, is one of California's own valued industry leaders and third, because many of our people had an opportunity to become better acquainted with its program during its highly successful spring meeting held in San Francisco in April last year.

The California Fertilizer Association hopes for continuing success in the program of NAC in all the years to come.

Does your company have

Technical Problems?

There's a good chance NAC's technical advisory committee can find the answers for you.

By Dr. L. Gordon Utter
Chairman, Technical Advisory Committee, NAC

THE MULTIPLICITY of problems confronting an industry organization such as the National Agricultural Chemicals Association is most frequently resolved by assignment to committees. Such committees are composed of industry members having the training, background and experience which insures an adequate appraisal and study of a respective problem, leading, where possible, to its most effective solution.

The technical advisory committee of NAC is one of several committees. Its responsibility is limited to the consideration of technical subjects assigned to it by the president or executive secretary of the association.

Suitable subjects also may be presented for consideration directly or through correspondence to the chairman of the committee but are subject to approval by the officers of the association before final action is taken.

It has always been the policy of this committee that matters which are confidential with an individual member or subject to technical competition between individual members of the association will not be discussed or considered.

In other words, its efforts are confined to the study of a technical problem only if the solution would be best accomplished through association action and would be to the benefit of the whole industry or a substantial portion thereof.

The committee also serves in an advisory capacity to the association on all matters of a technical, research or scientific nature.

Dr. L. Gordon Utter

The committee membership is drawn from many companies in the association representing such interests as arsenicals, copper, sulfur, weed killers, hormone and defoliant sprays, botanicals, animal pests, oils, inorganic pesticides, synthetic organic insecticides and fungicides, fumigants and soil disinfectants, public health, seed treatment products, diluents, solvents, etc. and pesticide chemical colloids.

As a result of this organization, the committee as a whole, or through subcommittees, is in a favorable position to undertake any problems that might be assigned to it.

In approaching the study of any project, the committee determines whether an association problem exists and if so, establishes the facts indicating the project's importance. This is usually followed by hours of hard work and effort in studying the problem, accumulating data and facts, analyzing the information, and providing conclusions, recommendations or reports on the results.

Over the years, many problems have been given the technical advisory committee and a review of the more important ones indicates they fall into such categories as research studies, practical applications and liaison problems with professional societies and governmental agencies at both federal and state levels.

Research Studies

Several problems studied by the committee may be cited under the general heading of research studies. In 1952 the matter of satisfactory analytical methods for many of the newer synthetic organic insecticides was presented for study. Such methods were to embrace not only control procedures but also determination of residues on or in plant organs.

This matter was of importance particularly as it related to regulatory control sampling and analysis under the state Economic Poisons Acts. It was ascertained that one of the chief problems in analytical work was the failure to recognize or take into consideration the margin of error inherent in any single method which might be employed. Because individual companies had certain preferred methods, it was concluded that more could be accomplished by their undertaking direct approach when a specific problem of analytical discrepancy arose. Also, the Association of Official Agricultural Chemists and a group from the Association of Economic Poisons Control Officials were known to be undertaking studies on the development of acceptable standard methods for given pesticides, the results of which would clarify the problem.

Evaluation Methods

Investigations, however, are proceeding on the evaluation of methods of sampling pesticidal products in the field.

Allied to this problem is another regarding specifications on the phys-

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ical properties of active ingredients. A subcommittee has spent considerable time on this project, especially on standards for dusts. However, many state control agencies have indicated equal interest in specifications for the various liquid forms of pesticides. Specifications have been completed for pesticide dusts which define their nature as active ingredients or formulations with carriers, diluents, etc. These specifications also indicate that a dust shall contain no hard lumps, be a homogeneous mixture under the spatula test, and meet minimums of 85 per cent and 99 per cent of the material passing through 200 and 100 mesh sieves, respectively.

In December 1951, the advisory council on pesticide chemical colloid systems was integrated with the technical advisory committee, serving in an advisory capacity. This council is composed of industry and governmental agency representatives. Its purpose is to formulate exact definitions on terminology in the field of surface active chemicals and to develop methods for laboratory and field evaluation of pesticidal emulsions.

Definitions have already been developed for such terms as emulsion, spray or dip emulsion, emulsifiable concentrate, emulsifiable concentrate—clear emulsion type, emulsion concentrate, surfactant, and others. These contributions should help to clarify the present confusion in the use of specific colloid chemical terminology.

Active Ingredients

The declaration of active ingredients on a weight/weight basis or a weight/volume basis was a problem studied with consideration for practical applications. Conclusions drawn indicated that where the analysis of the toxicant is given on a weight/weight basis under the "Active Ingredient" statement on a product label it would be desirable to provide a supplementary statement showing the pounds of toxicant per gallon. Such a procedure would also meet the preferences indicated by many state control officials.

Over the period 1946–1948 much publicity and concern was exhibited relative to purported poisoning of bees and cattle, through the use of new insecticides. The technical advisory committee was asked by the NAC membership and information committee to assemble facts and report on this situation.

It was found that under laboratory tests most of the commonly used insecticides and fungicides were toxic to bees. However, under field conditions the problem of poisoning was primarily accidental or negligent contamination of bee forage and bee yards.

Consequently, it was recommended that the prevalent "scare" publicity be overcome by proper education on the use of pesticides and the presentation of all facts relating to the problem. Livestock poisoning was found to be a relatively minor problem.

Off-Flavor Tests

During 1952 the possibility of off-flavor resulting from the use of pesticides attained considerable attention. A program to evaluate pesticides from the standpoint of off-flavor was carefully studied. While it was agreed that industry should cooperate with the program it was also apparent that industry could not be held responsible for variations of grade or quality of products not directly attributable to the use of individual pesticides.

However, the study showed that industry should be concerned with the pesticide residue present in or on treated plants and that adequate directions for use of the pesticide should be provided to avoid objectionable flavors. Further, any doubtful pesticide product should be referred to an independent, nonregional, professional taste panel for evaluation.

Regarding "Practical Applications" several problems might be discussed as illustrative of this phase of technical projects. For example, in 1947, complaints were being made regarding contamination of materials shipped in mixed carloads with BHC.

A subcommittee was formed with members of the technical advisory committee and packaging experts to study the problem of devising suitable containers for BHC and similar products to prevent the escape of deleterious odors.

Results of the study were given in an NAC bulletin in which instructions were detailed on special labeling, and specifications provided for satisfactory drums and small package bags. These efforts did much to eliminate complaints from shipments of BHC.

Herbicide Problems

The advent of 2,4-D posed a series of problems for study. In 1947, misapplication of 2,4-D, or the use of sprayers and other equipment, which had contained this chemical, for applying fungicides and insecticides resulted in reports of injury to various crops. The committee was confronted with the problem of precautionary warnings and it reviewed a specially prepared article for release on the problems involved in the use of 2,4-D and its effective advantages when properly handled and applied.

Methods for removal of 2,4-D from sprayers and dusters was the subject of considerable study by a subcommittee. It was found that low volume-low pressure equipment was easier to clean than high pressure-high volume equipment. Prior rinsing of the equipment with kerosene, fuel oil or diesel oil before using other methods of cleaning, was found to be helpful. The use of a one per cent household ammonia solution was the most widely used method. Lye and activated charcoal also were effective. Details of the methods were provided in an NAC bulletin. It was recommended, however, that special equipment for herbicides would always be the safest way of avoiding possible damage to crops. More recently the suggestion was presented that the purple band currently used on drums of 2,4-D and 2,4,5-T as warning against potential phytotoxic hazard to crops through contamination by small amounts be extended to cover other herbicidal products.

Analysis of the problem indicated that other available products were not in the same class and that the use of the same labeling would lead to confusion. It would also complicate and weaken the significance presently attached to the familiar purple band.

Copper and Zinc

Status of poison labeling requirements for copper and zinc com-

(Continued on page 69)

Quotes from Public Leaders to NAC:

Harold H. Shepard

WHEN the Office of Materials and Facilities was established in the U. S. Department of Agriculture under the authority of the Defense Production Act of 1950 the cooperation of manufacturers of agricultural chemicals obviously was essential to any program intended to assure adequate food production.

It was natural to turn to the National Agricultural Chemicals Association as the trade organization representing most manufacturers.

Officers of the Association have given liberally of their valuable time, especially during the earlier months of the Korean emergency, to provide for effective cooperation of the industry with defense agencies. Constant liaison has been maintained on an informal basis with the office of the executive secretary, Lea S. Hitchner, a very valuable arrangement.

During the emergency, reports of local shortages received by the Department and transmitted to Hitchner, were investigated promptly and, when found necessary, immediate action taken to alleviate the situation.

The Association office continues to be extremely helpful in providing information as to the demand for pesticides, and assists greatly in giving appropriate circulation to releases of the Department of Agriculture which are of interest to this industry.

Avery S. Hoyt

THIS 20th anniversary celebration of the National Agricultural Chemicals Association is an opportune time for the Bureau of Entomology and Plant Quarantine to express its appreciation of the cooperation of the Association in our mutual aim—to provide this nation with better methods and materials with which to control injurious insects.

Many of the outstanding new insecticidal chemicals are discoveries of industry members of NAC. The Association has played an important role in coordinating and facilitating various research studies that have led to the recommendation and use of the modern insecticides.

The efforts of the Association have aided in speeding up the solution of problems relating to the health hazard of insecticides, animal and plant toxicity, soil contamination, methods of chemical analysis and others.

Answers to these problems have made possible the more rapid acceptance and wider use of many of the newer insecticide chemicals.

The untiring and highly effective efforts of Lea Hitchner and his staff have led to the development of more efficient and economical methods of controlling insect pests.

Dr. Charles E. Palm

IT IS a real privilege to extend congratulations from the Entomological Society of America to the National Agricultural Chemicals Association on its 20th Anniversary!

The entomologists of the country have appreciated the capable leadership that American industry has taken in the development of effective chemicals for pest control. Pesticides are essential for the production and protection of our food supplies as well as for protection of the public health.

In a growing population, these benefits become increasingly important. The NAC has demonstrated in times of war and peace its effectiveness in providing the pesticides that are essential to our national economy.

Safe, sane practices in the use of pesticides have always received the wholehearted support of NAC. Forward-looking legislation relating to pesticides and their safe use has been a constant concern of the Association.

We, as entomologists, welcome the friendly help and cooperation of Mr. L. S. Hitchner, executive secretary of NAC and all of the member companies in our combined effort to provide the American public with the greatest possible benefits from pest control. We look forward to uninterrupted cooperation with NAC in the years ahead.

Rail rates, shipping problems combine to give manufacturers of pesticides there share of

Traffic Jams

By John J. Lynch

Chairman, NAC Traffic Committee

TRAFFIC JAMS are not the prerogative of cities congested by automobiles. Movement of an industry's products through transportation facilities often gives rise to problems as complex as those associated with the transportation of individuals. Industrial traffic specialists are fully aware of this situation, but very often the importance of proper traffic considerations is overlooked in an anxiety to serve the market as rapidly as possible.

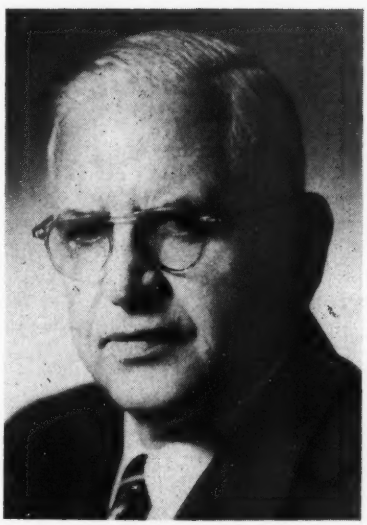
The larger companies engaged in marketing agricultural chemicals have employed traffic specialists to facilitate the economic distribution of their products but many of the smaller companies are unfamiliar with the most expeditious and economical methods of transporting their products.

Shortly after the National Agricultural Chemicals Association was founded it was brought to the attention of the board of directors by several traffic specialists that the association could do a valuable service by obtaining equitable rates for transportation of the industry's products.

Reducing Costs

Realizing the importance of reducing costs of transportation the board of directors asked eight traffic executives employed by company members of the association to form a committee to study traffic problems and to recommend action by the association.

The traffic committee was organized in 1939 and immediately



John J. Lynch

set about to obtain equitable ratings of the industry's products by the Interstate Commerce Commission.

Although we hadn't entered the war in Europe at that time, various rules and regulations laid down by the Interstate Commerce Commission were complicating the business of transporting our materials at a reasonable rate through the public carriers. New rules and regulations were being issued to govern the increased transportation activity.

When we entered the war, it was necessary for our industry to compete with other essential groups for sufficient rolling stock to transport our products. There was no question that chemicals to protect America's crops were essential to our war effort. The problem was how to get these valuable chemicals to the market in quantities to do the job.

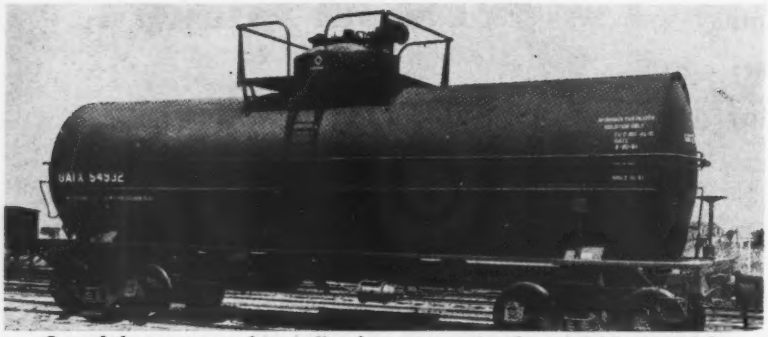
The work of the traffic committee, in cooperation with the carriers, proved invaluable to the industry and to the country during this period when so much stress was placed on the public carriers. Our committee, throughout the entire war period, constantly worked with government agencies and transportation groups to keep our products moving.

More Troubles

Despite the difficulties which arose during the war they were still only the forerunners of troubles which appeared later. Immediately following the war costs of materials and wages paid by the carriers skyrocketed. The carriers found themselves in a position of shrinking income which could be adjusted only by raising their freight and passenger rates. The carriers were successful in obtaining substantial increases in rates starting in August 1947 and continuing intermittently through 1952.

The significance of this action meant an increase of 80 to 85 per cent in transportation costs to our industry. Anyone familiar with the production and marketing of chemicals could realize quickly that our products could no longer be shipped by rail without a substantial reduction in such freight rates. Here is where our traffic committee was able to map out a course to lower transportation costs without endangering the interests of the common carriers.

First action we took was to



One of the most popular media of transportation for pesticide materials is the railroad tank car. The NAC Traffic Committee helps member companies obtain favorable freight rates for shipment of their products.

make application to the classification committee for reduced ratings on some of our lower-priced materials. We were successful in getting some ratings reduced but the reductions were not sufficient for the industry to continue shipping by rail.

Exception Ratings

Taking another tack, we decided to approach the various carrier committees of the various freight territories with an application for Exception Ratings to be applied to our insecticide commodities. We agreed to increase our carload minimum weight from 30,000 pounds to 40,000 pounds and at the same time asked for a rating 26 per cent of first class.

By increasing our minimum carload weight the industry was able to get a reduction of approximately nine per cent in rates and at the same time the carriers lost virtually no revenue on our total tonnage. It took some doing, but after several meetings rail traffic committees throughout the country accepted our proposal and the Exception Rating Class 26 was published and is still in effect between all points of the country east of the Rocky Mountains.

During the war many new chemicals were discovered to have valuable properties to combat various insects and diseases attacking food, feed and fiber crops. At that time, the chemicals which were shipped in the largest quantities by the industry were DDT, benzene hexachloride, toxaphene and DDD. None of these commodities carried any specific rating in the freight or truck classification. They were rated as chemicals. It was the opinion of the traffic committee that they should be rated the same as insecticides because they were used exclusively in the manufacture of pest control products. Representation was made on these points and the committee was successful in having the four commodities placed in Class 26 Exception Rating. We spent considerable time in negotiation with the various carriers and accepted a minimum carload weight of 50,000 pounds instead of 36,000 pounds. Following this agreement Exception Ratings were published.

Classification Problem

A similar problem arose on new weed control chemicals, defoliation materials and dessicants rated as chemicals, rather than agricultural commodities. Proceeding on the same lines as we did for the insecticides, the committee was successful in having these new materials placed under the Class 26 rating also.

Our industry, and other industries, have been plagued in the past by the lack of a uniform classification of products. A consolidated classification committee had been studying this problem for four or five years but because it involved three rate territories, each using a different scale of rates, a satisfactory agreement was difficult to achieve.

Meetings held by the classification committee and shippers and receivers of freight extended over a long period of time. The traffic committee represented our industry during these negotiations. Agreement finally was reached and the Interstate Commerce Commission required the carriers to place into effect the Uniform Classification No. 1 and docket 28300 Rate Structure which became effective May 30, 1952.

It is difficult to estimate in dollars what this action by the committee has meant to our industry during the past seven or eight years. We do know that the application of this new rate has permitted our industry to continue to ship by rail and has resulted in savings of several millions of dollars on transportation costs.

Our traffic committee is faced with the problem of trying to adjust our ratings in all territories so that our rates will not be increased. Of course, the Uniform Classification applies only on commodities moving on class rates, and because all our commodities move on Exception Ratings we are not effected so far.

The commission in its decision in Docket 28300 and 28310, did not order, but did recommend to the carriers that all Exception Ratings be cancelled. Bearing this recommendation in mind the carriers have already cancelled most of the less carload Exception Ratings and are now starting to cancel out carload Exception Ratings.

Next project for our traffic committee is to prepare to submit ap-

Members of the NAC Traffic Committee for 1953 include the following officials, in addition to the author:

LEO F. CANNON, Pennsylvania Salt Mfg. Co.; J. S. CARLSON, Stauffer Chemical Co.; J. W. COLLYER, Mathieson Chemical Corp.; J. D. DAMBERG, Geigy Co., Inc.; E. C. EBLE, The Dow Chemical Co.; T. P. GOODRICH, Hercules Powder Co., Inc.; E. J. GRESLIN, Ethyl Corp.; JAMES C. HIGGINS, Columbia-Southern Chemical Corp.; M. J. INGRAM, GLF Soil Building Service; E. C. McCLINTIC (Consultant), Pure Carbonic Co.; I. L. O'BRIEN, Monsanto Chemical Co.; J. H. WILHARM, Diamond Alkali Co.; G. L. WILSON JR. (Secretary), Rohm & Haas Co. and JOHN H. WRIGHT, Ashcraft-Wilkinson Co.

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9-4 Portable pH Meters

A folder, designed to simplify the choice of *p*H equipment, is available to the industry from Beckman Instruments, Inc. Four instruments—a highly accurate one for laboratory and research studies, a line-operated model for routine measurements in control laboratory and two lightweight portables for plant and field applications—are illustrated and their performance features described. **Code Number 9-4.**

9-5 Film Guide

Pesticide manufacturers instruct their salesmen and dealers through economical use of tape recordings and color slides, according to Minnesota Mining & Manufacturing Co. A 20-page illustrated booklet from the company, "How to Make Your Own Slide Film Presentations for Less Than $20," tells, step by step, how you can produce your own films. **Code Number 9-5.**

9-6 Butler Tank

Fifty years' experience has been built into its new 30,000-gallon ammonia storage tank, according to Butler Manufacturing Co. Constructed to the ASME Unfired Pressure Vessel Code, the tank features great strength and complete protection throughout with openings to custom-fit its utility easily to a specific storage job. Further information is available. **Code Number 9-6.**

9-7 Bag Filling Unit

Speed, accuracy and economy of operation are claimed by Inglett and Corley, Inc. for its Model 1B C-H automatic bagging unit. Literature from the company says the machine can be operated by one person, using any size or type open mouth bag, and is adjustable up to 20-100 lb. or 12-200 lb. bags a minute. **Code Number 9-7.**

Use card at right to get information on products and bulletins. For additional requests write FARM CHEMICALS on company stationery, giving appropriate Code Numbers.

9-1 Portable Mixers
9-2 Suspended Magnets
9-3 Snell Services
9-4 Portable pH Meters
9-5 Film Guide
9-6 Butler Tank
9-7 Bag Filling Unit
9-8 St. Gobain Process
9-9 Fur-Ag Conditioner
9-10 Tenlo-400
9-11 Nacconol
9-12 Chlorobenzilate
9-13 Lindane Solution
9-14 Hose & Coupling Catalog
9-15 Process Equipment
9-16 Jaeger Load-Plus
9-17 Select-O-Weigh
9-18 Concrete Coating

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9-8 St. Gobain Process

There are seven advantages through using the St. Gobain Process to manufacture complete nitrophosphate fertilizers, according to General Industrial Development Corp., agents for the process. Included are low operating costs, low capital investment because of the use of simple equipment and production of granulated fertilizers in one continuous automatic operation. **Code Number 9-8.**

9-9 Fur-Ag Conditioner

Why leading fertilizer manufacturers use Fur-Ag in their products is shown in a bulletin from Quaker Oats Co. Fur-Ag, "the sterilized organic conditioner," reduces bag-set, promotes drillability, speeds up curing in the pile and provides bulk, according to the company. **Code Number 9-9.**

9-10 Tenlo-400

Pesticide formulators will be interested in literature on Tenlo-400, Griffin Chemical Co.'s anionic emulsifier-solubilizer. Griffin says its product has an unusual solubilizing ability and its presence in various types of formulations has shown outstanding wetting effect when penetration of hard-to-wet leaf surfaces is involved in the spray treatment. Data on its physical characteristics and solubility is available. **Code Number 9-10.**

9-11 Nacconol

The addition of one to three pounds of Nacconol to a ton of fertilizer produces a very desirable effect, according to National Aniline Division of Allied Chemical & Dye Corp. Company literature says packing or caking tendency and clogging of fertilizer spreading equipment is lessened, labor costs are reduced and many other benefits are derived through use of the product. **Code Number 9-11.**

9-12 Chlorobenzilate

Findings of tests conducted during the past two years with Chlorobenzilate as an acaricide are given in a new bulletin from Geigy Co., Inc. Chemical and physical properties, formulation, compatibility, phytotoxicity, residue formation, toxicology and control data on the chemical are presented in the bulletin. **Code Number 9-12.**

9-13 Lindane Solution

Wireworms can be controlled effectively at low cost through the use of General Chemical 20 per cent Lindane Emulsifiable Concentrate, according to General Chemical Div., Allied Chemical & Dye Corp. A six-page folder, containing facts about wireworms and cabbage maggots and recommending quantities of the concentrate for use on various crops, is available. **Code Number 9-13.**

9-14 Hose and Coupling Catalog

A new book from Hewitt-Robins Inc. contains complete hose and coupling catalogs, information on hose buying and manufacture, service and maintenance hints, tips on coupling installation and selection and many other sections of interest to farm chemicals manufacturers. Hewitt guarantees every hose in the catalog. **Code Number 9-14.**

9-15 Process Equipment

Versatility and effectivenes are claimed for its twin-shell dry blender in a booklet from Patterson-Kelley Co., Inc. Characteristics, applications, capacities, power requirements and other data on twin-shell, double-cone and ribbon blenders are described in the illustrated booklet. **Code Number 9-15.**

9-16 Jaeger Load-Plus

The Jaeger 1-Yard Load-Plus can outproduce any other loader of its size, according to Jaeger Machine Co. Eight reasons why are listed in recent company literature, which shows the Load-Plus in operation in chemical plants and gives its specifications. **Code Number 9-16.**

9-17 Select-O-Weigh System

Wasted time and human error involved in manual weight-changing is eliminated once and for all through use of Select-O-Weigh, according to Richardson Scale Co. Select-O-Weigh is the company's recently developed proportioning and materials handling system for automatically making up formulated mixes of bulk products. The system is described and five Richardson scales for use with it are illustrated in company literature. **Code Number 9-17.**

9-18 Concrete Coating

A new corrosion resisting surfacing material recently has been developed by Carboline Co. Called Phenoline 300, it bonds perfectly to concrete and is highly resistant to acids, hot caustics, solvents and salt solutions, according to the company. Information on application, material requirements, uses and price are available. **Code Number 9-18.**

Reader Service inquiries will be honored up to six months after date of publication of the magazine in which they appear.

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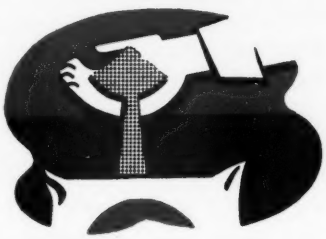
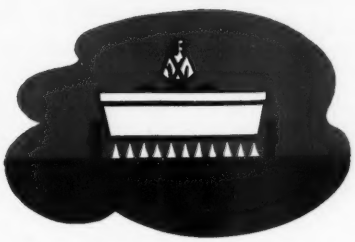
DAVISON GRANULATED Superphosphate 3 WAY CONTROL



STORAGE CONTROL—No caking or lumping while in storage.



APPLICATION CONTROL—No dusting or bridging; drills free and even.

FOOD CONTROL—Supplies plant food at a uniform rate.

Now it is possible for you to store superphosphate without fear of its caking . . . that is, if it is DAVCO GRANULATED SUPERPHOSPHATE. DAVCO Granulated Superphosphate will not become hard or caked . . . it is easier to apply in the field because there is no dusting or bridging over in the drill.

DAVCO Granulated Superphosphate gives complete coverage in the field . . . drilling freely and evenly . . . supplying each plant with a uniform quantity of nutrient phosphorus.

Get DAVCO Granulated Superphosphate . . . the superphosphate that gives you the added sales points through its 3-way control.

Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

BALTIMORE 3, MARYLAND

PRODUCERS OF: CATALYSTS, INORGANIC ACIDS, SUPERPHOSPHATES, PHOSPHATE ROCK, SILICA GELS, SILICOFLUORIDES AND FERTILIZERS

Prompt Delivery of *Nacconol*®

THE LOW COST "CURE" ACCELERATOR

FROM NEARBY WAREHOUSE STOCKS

As little as one pound of *Nacconol*® per ton of Fertilizer

- **Assists in keeping finished fertilizer free-flowing in the bag and in the curing bin**
- **Avoids the regrinding of lumped bagged goods**
- **Substantially reduces curing time**
- **Breaks the bottleneck of curing-bin capacity**

What NACCONOL is

Nacconol is America's oldest low-priced, mass-produced synthetic surface-active agent. Millions upon millions of pounds of Nacconol have been used over the past twenty years.

How NACCONOL works

As little as one pound of Nacconol per ton of finished goods, accelerates the reaction between the super phosphate and the ammoniating solution . . . causes the batch to cure in much shorter time. And because the cure is more complete, "mixed goods" are free-flowing — in the bin — in the bag — in the fertilizer spreader. You cut costs in the plant, avoid regrinding of lumpy bagged material. Your farmer friends get a better product from every angle.

Here's how Nacconol is used:

Use *Nacconol NR Flake or Dense Beads* — the free flowing, non-dusting types that disperse beautifully and uniformly. Add the required amount at the weighing hoppers or pre-mix with potash or other dry materials being used in the mixture. Distribute Nacconol throughout mix as thoroughly as possible. It's simple and easy as that! Remember Nacconol is time-tested . . . your best all-around money value. Millions upon millions of pounds of Nacconol have been used over the past twenty years in America's leading industries.

TIME TESTED • AVAILABLE NOW • BEST ALL-AROUND MONEY VALUE

Write, wire or phone our nearest office for price and delivery.

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ALLIED CHEMICAL & DYE CORPORATION

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San Francisco 5, Cal., 517 Howard St.	SUtter 1-7507	Chattanooga 2, Tenn., James Building	CHattanooga 6-6347
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plication to the uniform classification committee for lower classification ratings on our commodities.

Packaging Problem

Another problem which the traffic committee has had to handle is the packaging of our various commodities. The Bureau of Explosives, a bureau directly under the supervision of the Interstate Commerce Commission, has direct control over the packaging of Class B poisonous and inflammable liquids. Some of our agricultural chemicals are in this class.

The committee sets up specifications for cartons, bags, boxes and drums for handling poisonous commodities. From year to year new chemicals are being used in the manufacture of insecticides. The committee works out specific containers for handling these new products for approval by the Bureau of Explosives. This work is very important to the industry. Although we only propose containers which can be handled safely in shipping, it is important that we keep the cost of containers at a minimum.

With complex transportation problems facing the industry today, it is imperative that our traffic committee keep abreast of all proposed rate increases, both rail and truck, and pertinent legislative matters. At our last general meeting in April we decided to appoint special committees to make a close check on all changes effecting our industry, insofar as they concern proposed rate increases, both rail and truck, classification ratings, packaging requirements and other transportation matters.

It has been the policy of the traffic committee, since its inception, to lend its support only to transportation problems which will benefit the whole industry. We have, however, been glad to offer advice regarding transportation problems to NAC members who do not have Traffic Departments of their own.

Record of Achievement

Having served on the traffic committee since its inception, I feel it can be proud of its record of achievement for the association and the industry. The committee has always had the cooperation of the

(*Continued on page 69*)

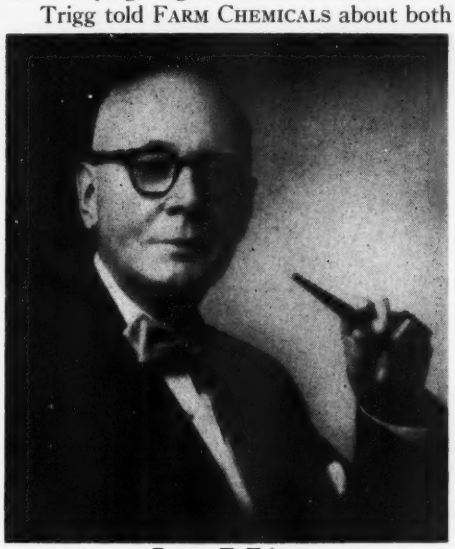
Ernest T. Trigg —

One of the Founding Fathers

BACK in the early twenties Ernest T. Trigg, who has been called "The father of the NAC," was president of John Lucas & Co. in Philadelphia.

Today he heads The Savings & Loan Foundation Inc. in the same city, giving all his time and efforts without compensation.

Trigg told FARM CHEMICALS about both jobs and a lot that has happened in between at an interview in his office late last month.



Ernest T. Trigg

Lucas owned an insecticide and fungicide plant in Vineland, N. J., called Lucas Kiltone Insecticide Co., headed by an up-and-coming young man named Lea Hitchner.

"There were relatively few producers in those days," Trigg recollected, "but we soon found that a very bad situation existed among the producers."

"Competition was intense and it was not always ethical," Trigg recalled.

That's when Trigg first thought of organizing a trade organization (he's been organizing things ever since) for members of the pesticide industry.

"Our main objective was to get the producers involved to call each other by first names instead of bad names," Trigg said.

He and 25 other manufacturers of farm chemicals met July 15, 1924, after several preliminary meetings, to organize the Agricultural Insecticide and Fungicide Manufacturers Association.

"I look back on that organization as a constructive move toward helping solve the common problems that faced the industry in its early days," Trigg declared.

The organization was merged with the Manufacturing Chemists Association in 1932, the same year Trigg retired as president and left the pesticide industry.

But two years later the foundation laid by the earlier organization played a big part in the organization of another Agricultural Insecticide and Fungicide Association; this one being later renamed the NAC Association.

Although Trigg has been away from the industry for 22 years he still has a "sentimental interest" in it. He's a very busy man these days (his duties including the post of vice president of the board of directors of Philadelphia city trusts and active membership in the Chamber of Commerce) but he looks back fondly to the time when he was helping the pesticide industry through its growing pains.

On the eve of the NAC 20th anniversary Trigg stressed his belief that the farm chemicals industry is making big strides in increasing crop yields and that the industry is the most important factor in our nation's food supply.

One-Stop NITROGEN Service For Fertilizer Manufacturers

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LION ANHYDROUS AMMONIA—For formulation. A uniformly high-quality basic product. Nitrogen content, 82.25%.

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LION SULPHATE OF AMMONIA—For direct application or formulation. Large free-flowing crystals. Guaranteed nitrogen content, 21%.

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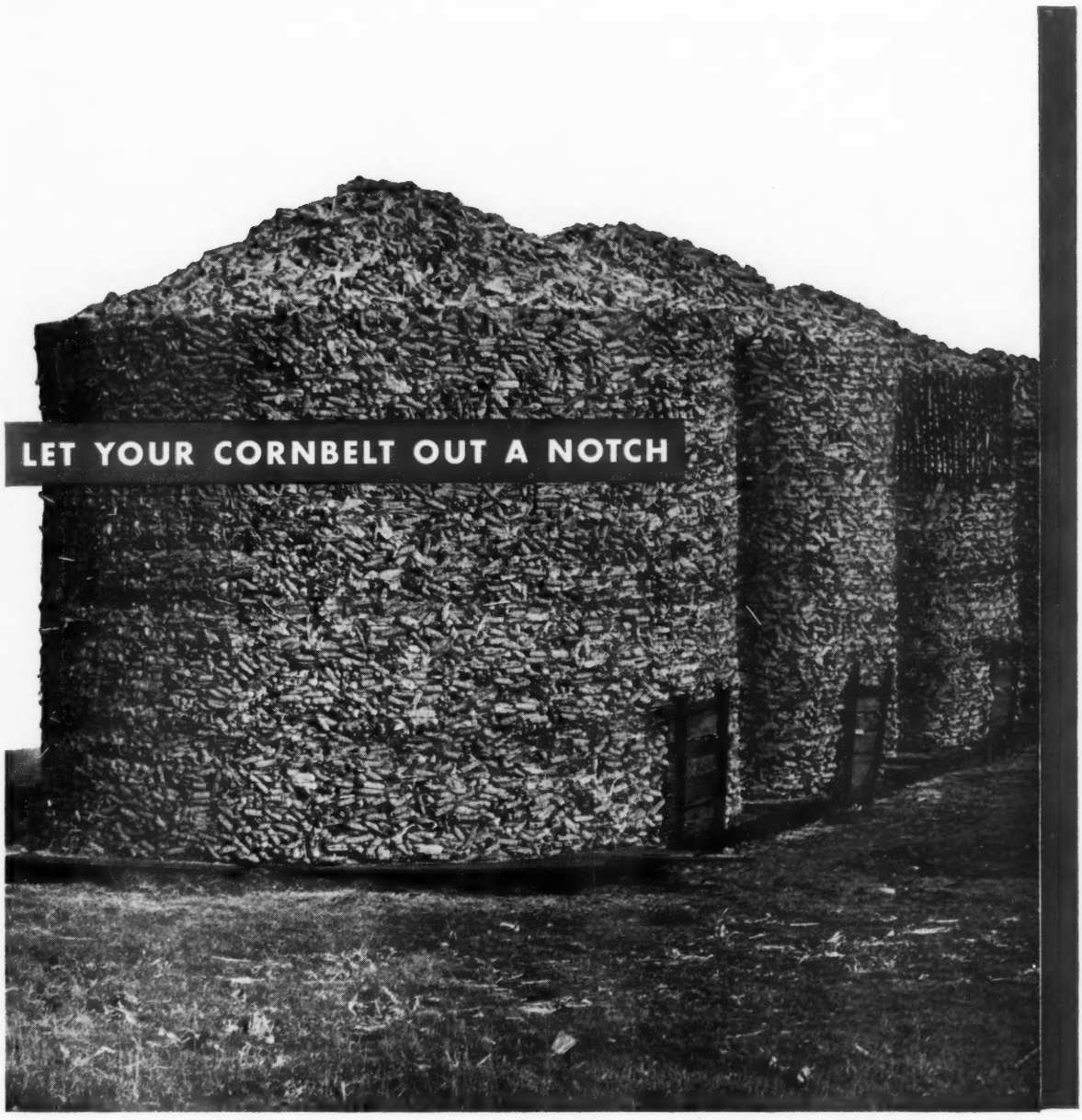

SUNSHINE STATE POTASH
A PRODUCT OF NEW MEXICO U.S.A.

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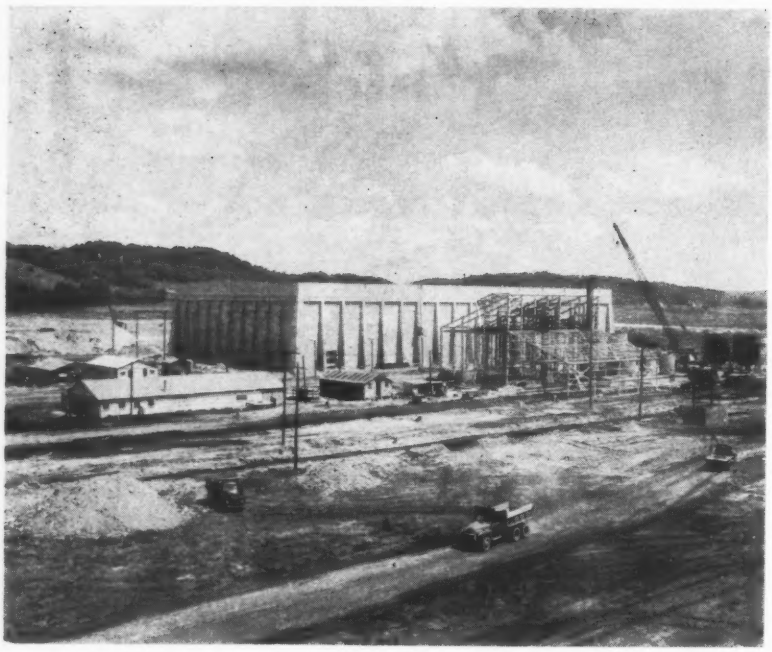
HIGRADE MURIATE OF POTASH 62/63% K_2O
GRANULAR MURIATE OF POTASH 60% K_2O MIN.
MANURE SALTS 20% K_2O MIN.

These cribs are loaded to the brim with ripe, golden ears every harvest time. Here, in the heart of America's great corn belt, record crops are brought in each year. Farmers and business men know it pays to build peak production.

From the soil, ultimate source of all animal and vegetable growth, spring these rich, heavy yields. Yearly the demands of growing crops draw vital plant-food elements from the soil. Fertilizers help restore these elements.

Many of the most effective fertilizers for replenishing the soil contain POTASH, often Sunshine State Potash, a product of New Mexico. POTASH not only nourishes the soil, it strengthens crop resistance to drought and disease. POTASH has proven itself a valuable aid in producing peak production and profit.

UNITED STATES POTASH COMPANY, Incorporated, 30 Rockefeller Plaza, New York 20, N. Y.



View of storage facilities under construction at Nit. Div's. South Point, O. plant.

Nitrogen Division Makes 12-12-12

THE LEADING manufacturer of nitrogen products, Nitrogen Division of Allied Chemical & Dye Corp., is launching production of a high analysis general crop fertilizer.

It is manufactured by a modern chemical process which features substitution of nitric acid for strategically scarce sulfuric, resulting in an annual saving of up to 88,000 tons of 100 per cent sulfuric.

The new fertilizer, called Arcadian 12-12-12, will be produced in the fall by a continuous process in a $5,000,000 plant nearing completion at the Division's South Point, O., plant site, where it now makes nitrogen products.

Will Help Reduce Costs

Fred T. Techter, executive vice president of the Division, said the new high-analysis fertilizer will help farmers reduce crop production costs.

The Division says its new plant, utilizing a process developed after five years of research, will be the first of its kind in the United States.

"Farmers will benefit economically from the high analysis of the new plant food," according to Techter, "as well as from the fact that it contains no filler and no material that is not an essential plant food.

"These features," he declared, "will reduce the costs of transportation, handling and application. The farmer can reduce the number of lower grades of fertilizer he has to store and handle.

Single Crop Application

"He will also be able to make substantial savings when a single crop application of this material can take the place of two applications of lower analysis fertilizer."

The vice president said the high analysis feature of Arcadian is achieved by the nitric for sulfuric acid substitution.

In the process ground phosphate rock is continuously mixed with nitric, phosphoric and sulfuric acids.

After preliminary digestion these acids are neutralized with anhydrous ammonia to produce such fertilizer salts as ammonium nitrate, ammonium phosphate, ammonium sulfate and others.

Highly Available Mixture

At certain points in the processing potash salts are added and become chemically integrated with the other nutrients to produce a chemically stable and highly available mixture of essential plant foods.

The product then is dried to approximately one per cent moisture, screened and cooled before going to storage.

Oversized particles are removed, remilled and returned to the process along with the undersized particles for further refinishing. The final granulated particles are of a size such that all will pass through an eight-mesh screen and none will pass a 30-mesh screen.

Can Be Spread By Plane

A big advantage of the granulated Arcadian, which is dustless and free-flowing, is that it can readily be distributed from an airplane.

The granulation also eliminates clogging of farm distribution equipment, uneven distribution on fields and loss of material from dusting, Techter explained.

Selection of the 12-12-12 analysis is in line with the 1-1-1 ratio advocated by leading agronomists and experiment stations, Techter stated.

He said the analysis is especially suited for soils and farming methods of the states ranging from New York west to Nebraska and from Michigan south to Kentucky, and will be marketed initially in that area.

Good for Many Crops

"Crops for which the fertilizer is well-suited," Techter announced," are corn, small grains, pastures and fruit and truck crops."

The nitrogen is in two forms, one half as quick-acting ammonia and the other as long-lasting nitrate.

Techter asserts that introduction of the Arcadian 12-12-12 is a "major step toward alleviating the fertilizer shortage of many years standing.

"It also is an important step in making fertilizer as modern as the farming equipment now being adopted everywhere." ◆

Facts on Arcadian . . .

- **Dust-Free, Non-Caking, Granulated:** Manufactured by a chemical process which produces uniform pellets, each containing not less than 12 per cent nitrogen, 12 per cent available phosphoric acid (P_2O_5) and 12 per cent potash. Chemically stabilized in manufacture to prevent caking and screened to eliminate small particles and dust.

- **High Nitrogen for General Crops:** Arcadian-12-12-12 nitrogen content is approximately one-half in nitrate form and one-half in ammonia form; thus it has both the quick-acting and the long-lasting forms of nitrogen which make it a general crop fertilizer. Potash content is derived from high-grade potassium chloride (muriate of potash). All the nitrogen and potassium compounds are soluble in water and readily available. Ideal for corn, small grains, pastures and fruit and truck crops.

- **Nutrient-Balanced, with Minor Elements:** Arcadian 12-12-12 contains no filler and no material that is not an essential plant food. In addition to the primary plant nutrients, it contains substantial quantities of available calcium and sulfur and small quantities of magnesium, iron, manganese and other minor elements normally present in fertilizers made from superphosphates.

Overall aerial view of the South Point, O. plant of Nitrogen Division where the new Arcadian 12-12-12 will be manufactured. Products of this plant include ammonia, urea, nitrogen fertilizer solutions and other chemicals.

Here is the mixing and processing area of "Na-Churs."

Na-Churs Plant Food Company:

Pioneers of Liquid Fertilizer

PIONEERS are not old in the liquid fertilizer industry in this country, even though the use of fertilizer dates back to early civilization.

Only in recent years has liquid fertilizer attracted wide recognition and acceptance. One of the early producers, whose marketing problems included helping to overcome initial public indifference, is the "Na-Churs" Plant Food Co. of Marion, O., one of the oldest and most widely known producers in the nation.

"Na-Churs" is expanding steadily with a product that is different from most liquid fertilizers in several respects:

1. It is in solution and is not a powder or a mix.

Approximately one-third of the "Na-Churs" Plant Food Co.'s office personnel are shown below.

2. It is a balanced fertilizer based on a 7–14–7 formula and containing such trace elements as calcium, magnesium, sulfur, boron, iron, manganese, copper, zinc and molybdenum.

Turning to the Farm

Without ignoring or neglecting the home gardener or lawn markets, "Na-Churs" has turned heavily to the farm market where its labor-saving and other benefits have won it wide acceptance.

Since its beginning in 1945, "Na-Churs" has carried on a busy research program to explore the economically practical uses for liquid fertilizer among the nation's crops. Extensive field work also has been carried on by "Na-Churs" Plant Food Co., Ltd., at London, Ontario, Canada, an affiliate of the Marion, O., concern.

The company's early marketing activities were aimed at garden and lawn enthusiasts, but its product soon attracted the attention of many persons in commercial agriculture, especially among truck gardeners whose interest in hydroponics had somewhat prepared them to accept liquid fertilizer.

Experiments with tomatoes, beans, peas and other truck garden crops opened the way to gradual development of the agricultural market in many states. The acceptance initially spread by word of mouth on the basis of results obtained by individual growers.

Pattern for Growth

This still is the basic pattern for continued growth, supplemented by advertising in local farm papers. However, the acceptance of liquid fertilizer in general and "Na-Churs" in particular was substantially aided in 1951 by reports on scientific studies which empha-

sized the importance of leaf feeding, the company states.

The whole concept of feeding plants through their foliage is relatively new and exciting, but tests have shown that plants can absorb important amounts of nutrients through their leaves and stems as well as through their roots.

One widely published report shows that plants absorb up to 90 per cent of the nutrients applied to their leaves, indicating the efficiency obtainable in the use of liquid fertilizer sprayed on the leaves.

The same tests showed that within a few minutes following application of nutrients, they were carried throughout the plant's root, stem and leaf system, Na-Churs reports.

Typical of the activities "Na-Churs" has carried on in behalf of the entire liquid fertilizer industry was the publication in January of 1952 of a four-page magazine insert circulated widely among agricultural colleges, high school vocational agriculture instructors and county farm agents. This "Progress Report on Liquid Fertilizer" dealt factually with developments up to that time and served to consolidate much information previously obtainable in fragmentary form from many different sources.

Two Big Milestones

Last year included two other important milestones in the growth of the "Na-Churs" organization. One was the signing of Dr. V. A. Tiedjens, a nationally known agronomist, formerly with Rutgers University and later with the Virginia Truck Experiment Station, as research director.

Dr. Tiedjens now devotes full time to laboratory and field testing activities.

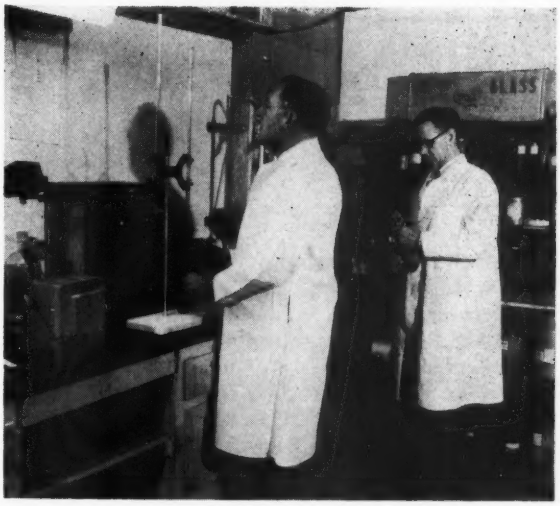
Another development last year was the moving of the company's factory and offices to a newly-constructed building which provided for the rapid growth of both the office and production personnel. There are also expanded facilities to serve the rapidly growing list of representatives in the field.

B. Peterson, president and founder, is convinced that "Na-Churs" and the entire science of using liquid fertilizer is just beginning to come into its own. He predicts the most impressive and exciting years are ahead, and that revolutionary developments in feeding crops of all kinds are just beginning.

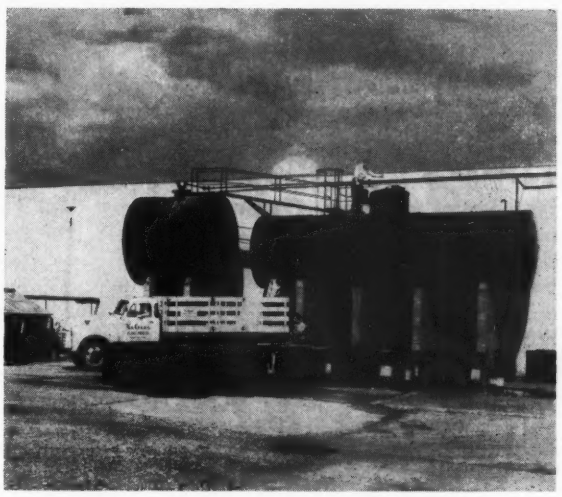
Helping the Field

Pleased by the opportunities his company has had to help simplify the fertilizing of the nation's growing crops, Peterson said of the future that "Na-Churs" will continue to push ahead, not so much in the interests of how large the company can become, but rather to continue to add to the growing fund of information the industry is accumulating on the fast, easy and simple ways of growing better crops.

Liquid fertilizers, he said, are rapidly becoming a new, basic product and are certain to win an enviable place in the agricultural scheme of things to come. "We intend to grow with our opportunities, and it naturally is satisfying to see our early faith in a balanced liquid fertilizer, delivered to the user in complete solution, more than justified by the results obtained by enthusiastic growers in many states." ◆



Dr. V. A. Tiedjens, director of research (left), is shown at work in the company's laboratory.



Part of the outside storage and loading area is shown above. "Na-Churs" expanded facilities last year.

Below are the staff and facilities used to produce sales literature and sales promotion material.

FERTILIZER MATERIALS MARKET

New York

August 10, 1953

Sulfate of Ammonia

It was reported in the trade that certain domestic producers of this material were now meeting the imported price and were quoting $47 per ton in bulk, delivered South Atlantic ports. Domestic material was moving rather slowly on contract.

Ammonium Nitrate

This material still is needed by various buyers who cannot seem to get enough. It is now one of the few materials still in short supply and no easement is looked for in the near future.

Urea

This market has been firm recently in spite of rather substantial importations from abroad. Current prices range from $131 to $133 per ton, ex-vessel Atlantic ports. Domestic producers are sold out for the new season.

Nitrogenous Tankage

Some producers now report good sized orders for future shipments on the books and the price ranges from $3.50 to $4.25 per unit of ammonia ($4.25 to $5.16 per unit N) according to shipping point. A better demand is noted as fertilizer buyers are entering the market to cover their seasons' requirements.

Castor Pomace

After a considerable decline price-wise, this material has shown a tendency to firm up at a price of approximately $30 per ton, f.o.b. production points. Some buyers recently covered a good part of their requirements.

Organics

Organics seem to be leveling off in price after their recent decline at the end of the fertilizer season. Some producers were inclined to firm up their views. Tankage and blood were selling at $5 to $5.50 per unit of ammonia ($6.08 to $6.68 per unit N) f.o.b. Eastern shipping points with the market well cleaned up of offerings. Linseed meal advanced $1.50 per ton at Minneapolis and cottonseed meal for quick shipment was getting more difficult to locate because of shipments by the government to the Texas drought area. Soybean meal was selling at from $65 to $66 per ton in bulk, f.o.b. Decatur, Ill.

Fish Meal

The catch of menhaden has improved recently because of favorable weather conditions and while producers have not reduced their prices, demand has slackened somewhat from the feed trade. Last sales of fish scrap were made at $127 per ton, f.o.b. fish factories and fish meal sold at approximately $5 per ton higher.

Bone Meal

This material has shown a tendency to firm up recently and imported material was higher in price. Demand from the feed trade has improved considerably recently and surplus domestic stocks have been cut down.

Hoof Meal

Because of the low production this material is firm in price at $6.25 per unit of ammonia ($7.59 per unit N), f.o.b. Chicago with little material offered.

Superphosphate

Supplies are adequate at the present time to take care of any expected demand that may develop. Triple superphosphate remains in fairly tight supply, although with the end of the peak shipping season some easement is looked for.

Potash

Producers were shipping against current contracts. Operations are now down to a normal basis and no shortage is reported. Some imported material is offered from time to time.

Philadelphia

August 10, 1953

The raw materials market continues in its dormant state. With the possible exception of ammonium nitrate there is an ample supply of the various products required for fertilizer mixing. The recently advanced prices are holding firm, and blood and tankage are somewhat stronger, but castor pomace and nitrogenous tankage are weaker. Movement of other materials, excepting cyanamid, is about normal for this time of the year.

Sulfate of Ammonia.—Shipments are reported about normal, with supplies of both coke-oven and synthetic sufficient to meet requirements, though stocks are not excessive. The foreign product is quoted at $47 at Eastern ports, and some domestic producers are said prepared to meet this competition.

Nitrate of Ammonia.—Demand continues ahead of production. Market is strong at the late price advance.

Nitrate of Soda.—Shipments are seasonally normal and supply adequate. Price is steady and unchanged.

Cyanamid—Nothing is moving out of Canada because of a strike which has closed down the works.

Blood, Tankage, Bone.—Tankage and blood are in slightly stronger position because of cut back in production and a little improvement in demand. Blood is priced at $5 to $5.50 ($6.08 to $6.68 per unit N) and tankage $5.50 to $6.25 per unit of ammonia ($6.68 to $7.59 per unit N), depending upon location. Steamed bone meal is quoted at $60 per ton, with little or no buying interest. Hoof meal is nominal at $6 per unit of ammonia ($7.29 per unit N) in the West.

Castor Pomace.—This is now down to $31 per ton at the works.

Fish Scrap. — Market remains

FERTILIZER MATERIALS MARKET

dull with exceedingly limited inquiry. The catch is said to be fairly satisfactory.

Phosphate Rock.—Demand is reported seasonally quiet, with the supply position improved and market firm.

Superphosphate.—Market is firm at late price advance and shipments moving at normal pace for this time of the year. There seems to be no supply scarcity.

Potash.—Movement is reported normal with almost the entire production under contract. It is understood that there is no great surplus of potash stocks in Europe.

Charleston

August 10, 1953

At the present time, with many purchasing agents on vacation and little activity from consuming trade, the raw materials market is relatively quiet. Except for a possible shortage of some forms of nitrogen, supplies of other prime ingredients of fertilizers will be adequate during the coming season.

Organics.—Interest in fertilizer organics is relatively quiet. The lupine meal which the Commodity Credit Corporation began offering in May has now been sold and is practically off the market. Domestic producers of nitrogenous tankage continue to offer at $3.15 to $4.65 per unit of ammonia ($3.83 to $5.65 per unit N), bulk, f.o.b. production points. Sizable tonnages already have been sold. Imported nitrogenous is indicated at approximately $5 per unit of ammonia ($6.08 per unit N), in bags, c.i.f. Atlantic ports, in limited quantities.

Castor Pomace.—Domestic producers have made recent sales at $28.50 to $30 per ton, in bags, f.o.b. Northeastern production points, depending on quantity. Importers are offering at prices ranging from $35 to $37, f.o.b. cars South Atlantic ports.

Blood.—Dried unground blood, in bags, is indicated at the Chicago market at $6 per unit of ammonia ($7.29 per unit N) and in the New York market, in bulk, at around $5 per unit ($6.08 per unit N).

Potash.—Movement of potash, primarily muriate of potash, is in seasonal dimensions. Generally the market is quiet at previous levels.

Ground Cotton Bur Ash.—This source of carbonate of potash, particularly adaptable for use in tobacco fertilizers, is available for prompt and future shipment at prices approximating the delivered cost of domestic sulfate of potash. Analysis is currently 38 per cent to 42 per cent K_2O.

Phosphate Rock.—Supply position is more comfortable because of slacking of demand during the summer. Prices remain firm.

Superphosphate.—Stocks of normal superphosphate are being built in anticipation of fall and spring demand. Movement is seasonal in volume. Prices continue advanced over the previous season prices in practically every area. Triple superphosphate demand exceeds supply.

Sulfate of Ammonia.—Production of coke-over material is in balance with demand and prices remain firm. Imported material is available at many Atlantic ports and supplies will be available during the next several months from abroad.

Nitrate of Soda.—Movement is in seasonal dimensions and stocks are adequate. No change in prices has been announced.

Calcium Ammonium Nitrate.—Limited stocks continue available at major Atlantic and Gulf ports at $51.25 per ton, in bags, f.o.b. cars at the ports.

Ammonium Nitrate. — Demand continues strong particularly for contracts for the new season. It is reported the Canadian output is already sold up.

BETTER CONTROL OF PLANT DISEASES

HLW Emulgates . . . emulsifiable concentrates of ORGANO-METALLIC fungicides

MERCUSOL

Cereal seed disinfectant. Liquid Emulgate of organic *copper* and *mercury* for low moisture, wet or slurry treatment. No fumes, no dusts, very economical.

Average concentration ½ fl. oz. per bushel of seed.

MERCADMINE

Effective control of turf grass diseases. Liquid Emulgate of organic *cadmium* and *mercury* provides strong residual protection. 1 pint in 50 gallons of water protects 10,000 sq. ft.

MERCULINE

Powerful fungicide for fruit trees, root rots, soil disinfection, nursery stock, flowers, bulbs, corn, seed potatoes, vegetable seeds, etc. Liquid Emulgate of organic *mercury* effective at reduced concentrations. From ¼ fl. oz. to 1 qt. in 100 gallons of water depending on plant, disease, and treatment.

Distribution Agencies still Available. Complete information may be had from:

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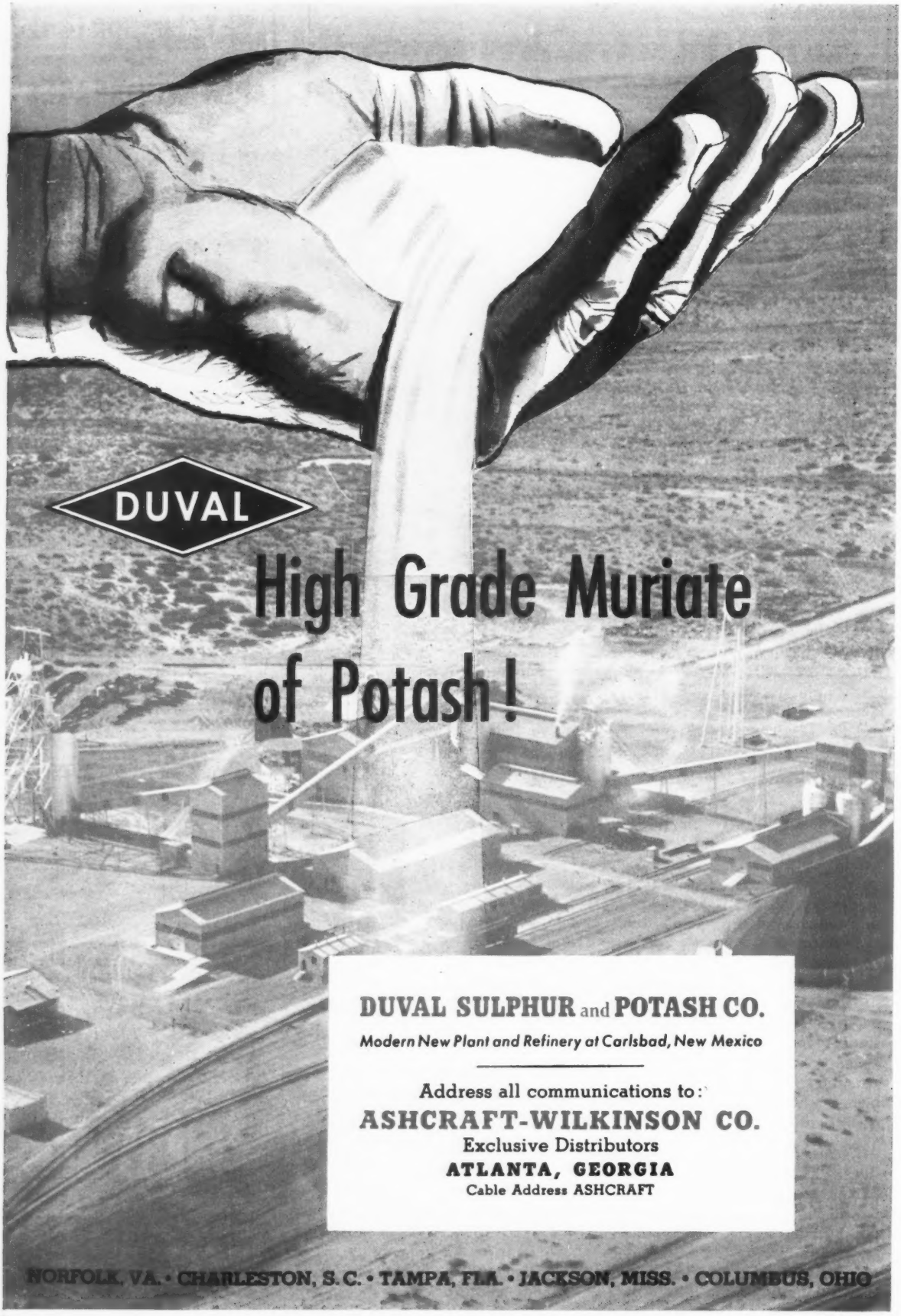
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Industrial News

New Products **New Plants** **New Appointments**

Liquid Fertilizer Sale Methods Recommended

Recommendations for the sale of anhydrous ammonia and other liquid chemical fertilizers with pressure characteristics were made at the 38th National Conference of Weights and Measures in May. The group also made recommendations for the sale of peat moss in package form.

Attending the conference, held in Washington, D. C., were 430 delegates representing many cities and counties, the government, manufacturers, railroads, business, industry, trade associations and representatives from 39 states and the District of Columbia.

Text of the recommendations for anhydrous follows:

Anhydrous Ammonia and Other Liquid Chemical Fertilizers with Pressure Characteristics—Action: Shall be sold by avoirdupois net weight, provided, however, that, when maintained in liquid form with temperature corrected to 60° F., it may be also sold by liquid volume, based on the United States standard gallon of 231 cubic inches, its multiples and binary submultiples.

Delivery tickets shall be provided, in duplicate, containing the date of sale or delivery, the name and address of the seller and buyer and the trade name and description of the product, and the net weight expressed in terms of the United States liquid gallon and/or fractions thereof as determined.

When the product is sold and delivered in containers or in package form, it shall be sold by net weight only, and said container shall be plainly marked in a permanent manner with tare weight, and, attached to each container, shall be a tag on which the net weight of the contents is declared.

Text of the recommendations for peat moss follows:

Peat Moss—Action: Shall be sold on the basis of cubical contents, and packages shall be marked in terms of cubic feet and/or cubic inches.

There shall be an allowable tolerance in cubic content not to exceed three per cent of the stated package volume. Packages shall be marked with the name and address of the producer or packer.

Davison Wins Safety Award

The Davison Sentinel last month was presented with an award of merit from the National Safety Council for its "exceptional service in the promotion of safety."

Above, Miss Helen O'Hara (second from left), editorial assistant to A. B. Pettit (right), supervisor of industrial health and safety, exhibits award she accepted from George W. Elste (second from right), president of the Baltimore Safety Council, as Marlin G. Geiger (left), vice chairman of Davison's board, looks on.

The award was presented in Davison Chemical Corp.'s Baltimore offices.

Smith-Douglass Buys Holdings Of Coronet

Coronet Phosphate Co.'s holdings in Hillsborough and Polk Counties, Fla. have been purchased by Smith-Douglass Co. for $6,350,000.

Coronet has been producing approximately 10 per cent of the national output of raw phosphate.

B. G. Dabney, general superintendent of the phosphate company's operations, retains the same position in the newly-formed Coronet Division of Smith-Douglass.

Fulton Buys Mente

Fulton Bag & Cotton Mills has purchased Mente & Co.'s Savannah plant and was expected to take over operations in late August.

This plant, Fulton states, will give the company a manufacturing location on the East Coast where favorable freight rates will enable it to serve "more economically and effectively" buyers of burlap bags, baled burlap and other products throughout the southeastern states.

Stauffer VP Dies

A Stauffer Chemical Co. vice president, F. W. Wieder, died suddenly Aug. 11, following a heart attack at Stanford Lane Hospital, San Francisco.

Wieder, who was in charge of the San Francisco Division, had been associated with Stauffer 35 years.

Industrial News

Columbia-Southern Corp. To Enter Ammonia Field

A new entrant to the ammonia production field will be Columbia-Southern Chemical Corp.

The company plans to construct its first ammonia producing facility soon at Natrium, W. Va., according to E. T. Asplundh, president, and expects to be in production by late 1954.

Columbia-Southern, a wholly-owned subsidiary of Pittsburgh Plate Glass Co. now has basic chemical producing plants at Barberton, O.; Corpus Christi, Tex.; Lake Charles, La. and Bartlett, Cal.

Thurston Appointment

Leon Holliday has been named accounts supervisor of Thurston Chemical Co.

He will coordinate credit, sales and all functions pertaining to accounts receivable.

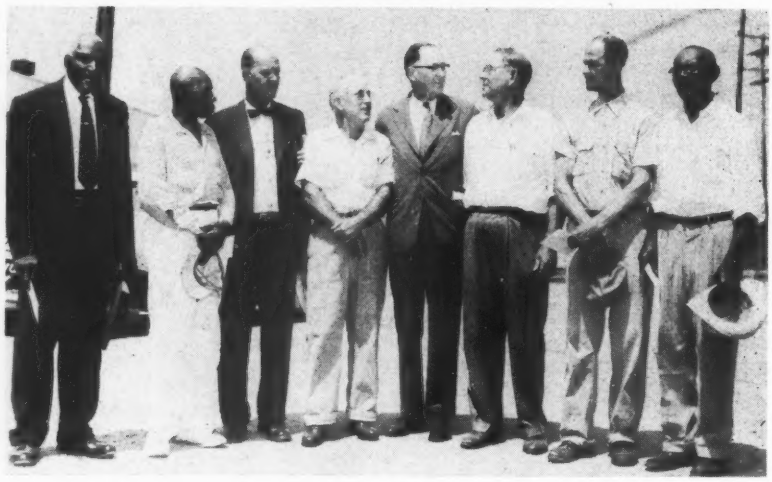
Classified

Mixed high analysis fertilizer can be manufactured under private label for you. Also available Muriate of Potash-Ammonium Nitrate-Triple Superphosphate. Address "405," care FARM CHEMICALS, Philadelphia 7.

FOR SALE: 2 Glens Falls Rotary Sulphur Burners 14 Feet Complete. Excellent Condition. Southern States Phosphate & Fertilizer Co., P. O. Box 546, Savannah, Ga.

Unusual opportunity in old, well established fertilizer concern in Midwest for a successful plant superintendent who has proved that he can coordinate production and maintenance in large plant to secure maximum efficiency. Fertilizer experience helpful but not essential. Salary open. Give age, education, experience and salary requirements. Address "415," care FARM CHEMICALS, Philadelphia 7.

Retiring at Smith-Douglass



Seven of the first Smith-Douglass Co. employes to participate in the company's retirement plan established 10 years ago, are shown above. Ralph B. Douglass, president, (fourth from right) is shown congratulating workers at recent ceremonies held at the Money Point, Va. plant. From left to right are Pat G. Poyner, Eddie Harrell, B. Frank Brown, N. L. Capps, Douglass, B. W. Lockhart, Edward H. Spencer and Willie C. Nixon.

Others retiring this year at Smith-Douglass plants are F. C. Wozniak, A. V. Kansky, J. H. Koch, P. O. Massey, Joseph Sladky Sr. and Esau Funches.

Effects of Truce

The Korean truce will cause no immediate change in the Army's requirements for anhydrous ammonia for explosives, according to a report from the National Fertilizer Association.

A "well educated" guess from a Defense Department spokesman stated that the requirements, which were scheduled for increase during coming months, may be somewhat less than originally programmed.

However, it is unlikely that the military's demand for nitrogen will be very great after next Spring.

Assistant Defense Secretary W. J. McNeil was quoted in the Wall Street Journal as saying "Of 16 ammunition plants in production today, we'll be lucky if we have two of them left in production 18 months from now."

Harold Succeeds Gaudet

Elliott M. Harold has succeeded Henry Gaudet as branch plant manager of The Davison Chemical Corp.'s New Orleans mixed fertilizer plant.

Harold joined Davison in 1929 and was named assistant branch plant manager in 1941.

Gaude continues as consultant.

California Group Studies Insecticide Effect on Soil

An important question—whether or not insecticides harm soils—is being studied at the University of California.

Long-range research is being carried on, and according to Lloyd Brown, of the Department of Soils, the research may last indefinitely because new sprays, fumigants and other soil treatments deserving study constantly are being developed.

Brown, who is in charge of the project, has declared "We already have some results indicating that in alluvial soils it is unlikely that present-day insecticides can accumulate to the point where they

Industrial News

affect soil fertility. Final results, covering all aspects of the problem, will not be available for a number of years."

The reverse question—how various soils affect the efficiency and lasting qualities of insecticides, nematodes and fumigants—also is being investigated.

St. Regis Promotions

Three personnel changes recently were announced by St. Regis Paper Co.

Frank W. Myers Jr. has been named assistant manager of the Multiwall Bag Division's Great Lakes sales district.

William T. Orr will supervise multiwall bag sales in the St. Louis and Kansas City territories and Jack A. Larigan has been promoted to supervisor of multiwall bag sales in Minnesota, Iowa, North Dakota, eastern South Dakota and northern Wisconsin.

9-1 Portable Mixers

Mixing Equipment Co., Inc. has published a 28-page catalog giving complete information on its portable mixers.

The catalog, according to the company, is built like its mixers—for service.

"Do's and Don't's of Mixing," construction details, and engineering discussion, motor specifications, mounting methods and ideas and information on the company's guarantee are only a few of the subjects covered.

To secure a copy, fill out a **Reader Service** card using **Code Number 9-1.**

Company Purchased

Purchase of a substantial interest in Southeastern Liquid Fertilizer Co., of Albany, Ga., will be made, subject to final approval, by Chemical Enterprises, Inc. according to an announcement by the latter company.

"Selfco" will continue operating as an independent unit and operations will be expanded through construction of additional storage facilities and opening of new distribution stations with additional capital supplied by Chemical Enterprises.

New Brazil Plant

A plant for the production of nitrogenous fertilizers soon will be constructed on the outskirts of Santos, Brazil

Brazil's president already has authorized advance of funds to National Petroleum Council to start construction. Eighty per cent of the equipment, purchased in Germany, is expected to be in Brazil by the end of this year.

Ammonia, nitric acid, nitrate of ammonia and fertilizer will be produced.

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POTASH

MURIATE
SULPHATE
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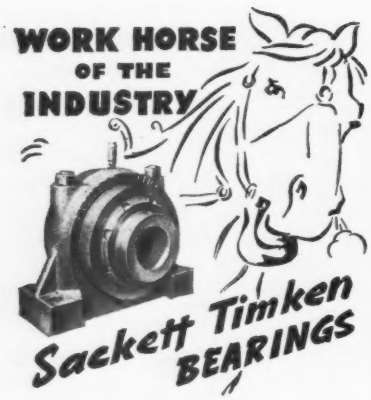

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Industrial News

Promoted By Pittsburgh

W. Scott James

Herbert F. Tomasek

Pittsburgh Agricultural Chemical Co., a division of Pittsburgh Coke & Chemical Co. has changed its name to Agricultural Chemical Division of Pittsburgh Coke & Chemical.

Transfer of the division's main office from New York City to the parent company's home office in the Grant Building, Pittsburgh, and the name change both were effected Sept. 1.

Herbert F. Tomasek will manage the division. W. Scott James succeeds Tomasek as sales manager and Dr. J. B. Skaptason is division director, new products development.

9-2 Special Magnets

Positive protection against tramp iron is obtained through the use of High Power Suspended Magnets, according to Magnetic Engineering & Manufacturing Co., their manufacturer.

The company, in a recent booklet, recommends use of its magnets wherever crushing, grinding or pulverizing equipment is used. Suspended magnets also are used for removal of contaminating metal particles from chemicals, according to the company.

For further information on the company's magnets, fill out a **Reader Service** card, using **Code Number 9-2.**

Monsanto Furnace

A second electric furnace for production of elemental phosphorus at Monsanto Chemical Co.'s Monsanto, Idaho plant is planned by the company, according to J. L. Christian, Phosphate Division general manager.

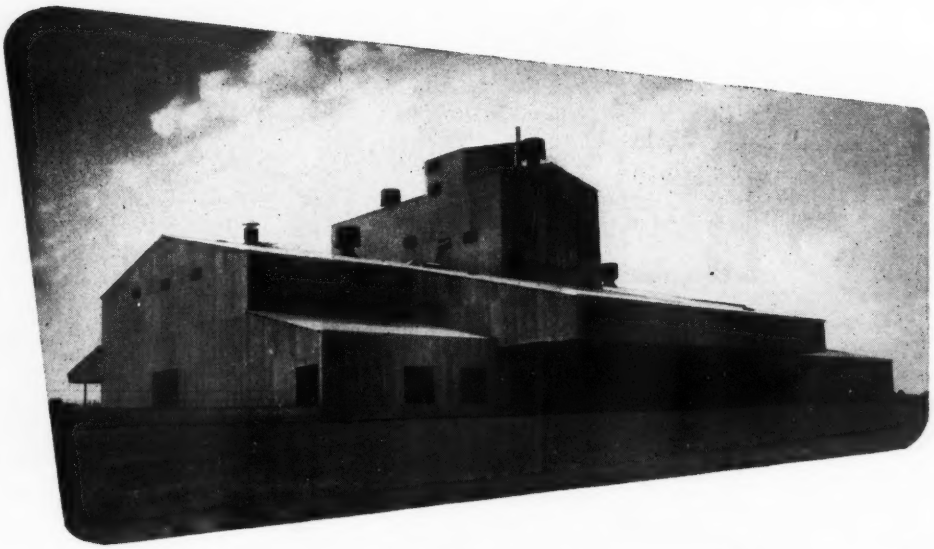
Necessary engineering is under way and several major items of equipment are on order for the new furnace, Monsanto's eighth.

Expanded capacity was needed, Christian said, because of increased demand for phosphate products.

Marietta Makes Slabs For Prefab Skyscraper

Marietta Concrete Corp., which makes concrete silos for industrial storage, last month gained nationwide attention by preparing prefinished concrete panels for a prefabricated skyscraper in Columbus, O.

The corporation manufactured 204 panels, in sizes up to eight by 10 feet for the building, which was erected in 50 working days as an exhibition structure for the Ohio State Fair.



Florida Goes Modern

To better serve its ever growing family of farmer-customers with plant foods of premium quality, the NACO FERTILIZER COMPANY selected the Sackett organization to design, construct and equip this new highly-mechanized fertilizer mixing plant at Fort Pierce, Florida.

This new facility is, to our knowledge, the first plant of its kind ever to be *custom-engineered* throughout to meet the complex manufacturing problems due to Florida's required multiplicity of grades.

Superphosphate and mixed goods producers are invited to get our seasoned counsel on their expansion and modernization programs. It is available at no cost.

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RELATED PRODUCTION EQUIPMENT

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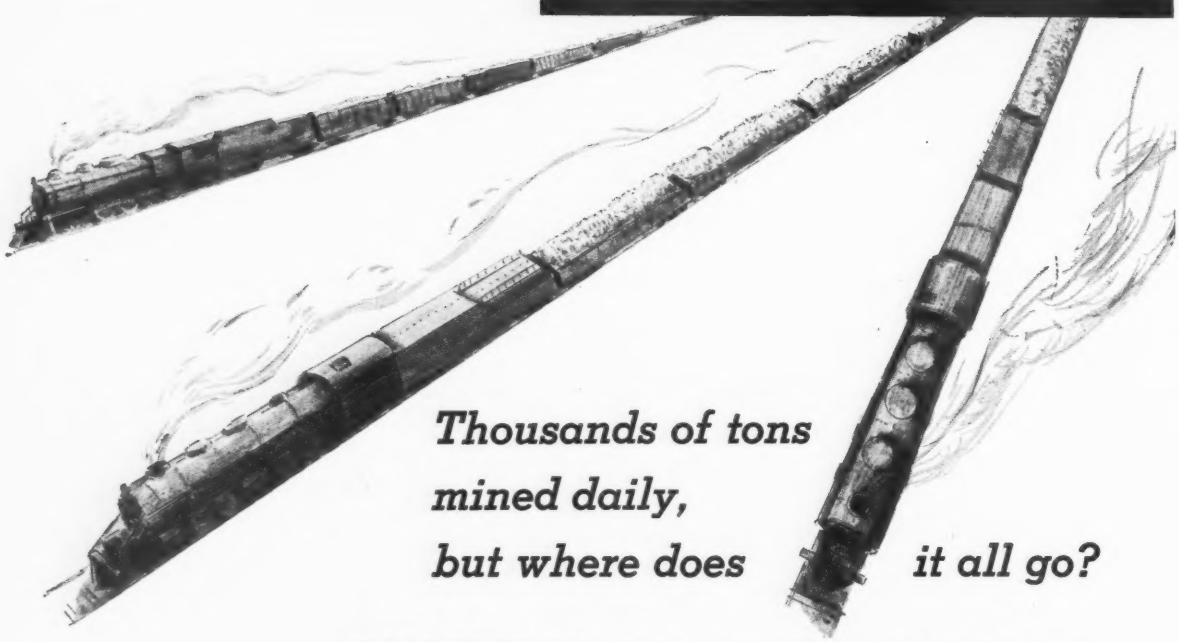
Sulphur



Thousands of tons mined daily, but where does it all go?

LOOK AROUND YOU and let your glance fall on any object. The chances are 1000 to 1 that sulphur played an important role in its manufacture, either as a component part of the finished product or as a processing element.

Take, for example, the very magazine you are reading. If it's average size it weighs about 1 pound. Made largely of sulphite pulp it required about 0.1 pounds of sulphur in its manufacture.

Multiply this 0.1 pounds of sulphur by the thousands of magazines turned out every day and you'll get some idea of the tremendous tonnage of sulphur required for this *single* division of industry . . . the sulphite pulp manufacture.

Sulphur has long been called One of the Four Pillars of Industry. Today's need emphasizes this fact more than ever. Sulphur producers are making every effort to get maximum production from existing mines and to develop new sources of sulphur as quickly as possible.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

Industrial News

9-3 Snell Services

The "Who, What, Where and Why" of applied research, development and testing offered by Foster D. Snell, Inc. is contained in a recent booklet from the company entitled "Services."

The spiral-bound booklet starts on the tenth floor of Snell's laboratories and descends to the first, giving a floor-by-floor description and illustrations of work in progress and detailed shots of test equipment.

For a copy of "Services," fill out a **Reader Service** card, using **Code Number 9-3.**

Commercial Has Gain

Commercial Solvents Corp.'s consolidated net earnings for the quarter ended June 30 were $523,213, equal to 20 cents a share on 2,636,878 shares. For the corresponding period in 1952, consolidated net loss was $27,140, equal to one cent a share.

Joins Thurston

H. G. Barclay

New staff member of Thurston Chemical Co. is H. G. "Gay" Barclay.

He formerly was employed by W. R. Grace & Co. and was associated with the parent company and its subsidiaries, Naco Fertilizer Co., Brown-Manly Plow Co. and Naco Manufacturing Co.

In December, 1951 Barclay became manager of Naco Farm Supply Store in Vero Beach, Fla., the position he held until joining Thurston.

New Seed Treatment Eliminates Dusting Off

"Ceresan" M-2X virtually eliminates dust problems while treating seed or handling it afterwards, according to the DuPont Co.

The new double strength ethyl mercury seed disinfectant is applied in a liquid mixture or "slurry" which quickly dries on the seed without "dusting off" during the treating operation, or later when the seed is bagged and handled.

Available in a two-unit package —five pounds of the seed disinfectant in one unit plus a separate section containing the liquid agent —the treater can mix the correct dosage without having to weigh or measure chemicals, the company states.

For more than 50 years Armour fertilizers have been "making every acre do its best". Farmers know that Armour's highest-quality fertilizers are made right and cured right to give best results with all crops.

Every bag of fertilizer sold by Armour is backed by years of painstaking scientific research in the fields of chemistry and farming. Testimonials from every section of the country—on all types of crops—prove that Armour fertilizers make increased yields of better quality crops that bring higher profits.

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Montgomery, Ala.
N. Kansas City, Mo.
Nashville, Tenn.
New Orleans, La.
Norfolk, Va.
Presque Isle, Me.
Sandusky, Ohio
Siglo, Tenn.
Wilmington, N.C.
Winona, Minn.

Also sales offices in Havana, Cuba, and San Juan, Puerto Rico

Industrial News

USDA Officials Visit USI Allethrin Plant

The first full-scale plant for the commercial production of allethrin, that of U. S. Industrial Chemicals Co., recently was visited by three USDA scientists.

The scientists, Dr. Milton S. Schechter, Frederick B. LaForge and Nathan Green wanted to see how their research had been translated into commercial production. (FARM CHEMICALS reported on the pyrethrin-like insecticide in its December 1952 issue, page 12.)

Production of the plant, which was opened last October, has increased each month to its full rated capacity.

Conditioners for Tobacco

Results of two-year field tests released by Monsanto Chemical Co.'s Merchandising Division indicate that tobacco crops can be started earlier, with the loss of fewer plants, through the use of synthetic soil conditioners in tobacco plant beds.

Principal reason is development of improved root systems by plants grown in soil treated with Krilium, according to Roy L. Brandenburger, general manager of the division.

Companies Make Transfer

Manufacturing facilities of Ezee Flow and New Idea Fertilizer spreaders will be transferred from Chicago to Fort Dodge, Iowa, according to William M. Werner, vice president of Avco Manufacturing Corp. and general manager of its New Idea Division.

Spreader production for western United States will be transferred from an outside contract supplier to Horn Manufacturing Corp., an Avco subsidiary.

Ezee Flow was acquired by Avco in April.

Egolf Joins Diamond

Diamond Alkali Co.'s new sales and service representative for Florida is Charles P. Egolf III. He succeeds Frank V. Allen.

Egolf, last year, was employed as research chemist by Food Machinery & Chemical Corp. and prior to that time was research chemist with International Minerals & Chemical Corp.

In his new capacity, he will handle Diamond's complete line of chemicals.

American Potash Gains

An increase in earnings and sales was reported by American Potash & Chemical Corp. for the first six months this year compared with the same period in 1952.

Net earnings for the period ended June 30 were $1,063,174 compared with $916,660 for the corresponding period last year.

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SULPHATE OF AMMONIA

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Industrial News

Orthocide for Potatoes

Orthocide promises important savings to potato growers, according to California Spray-Chemical Corp.

Federal approval recently was secured by the company for the fungicide on the basis of field tests.

Leo R. Gardner, manager of research, reports, "Potato seed pieces, dipped 30 seconds in a dilution of the product and drained, can be held for several days prior to planting without deterioration."

Tests have shown that treated seed pieces, after planting, resist rot and damping off diseases considerably better than untreated pieces, according to Gardner.

Lion Oil Income Up

Lion Oil Co.'s net income for the second quarter, after provisions for taxes on income, was $2,405,572 or 78 cents a share.

In the same period last year, income was $2,218,427 or 72 cents a share.

Earnings Increase

Net sales of Davison Chemical Corp. increased 14 per cent and net income, 39 per cent for the fiscal year ended June 30 as compared with 1952.

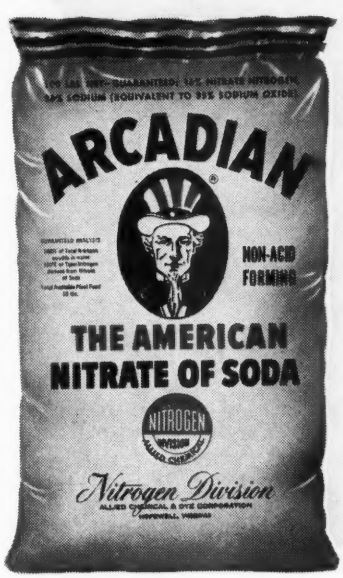
This year's sales were $56,590,-114 against $49,510,588 for 1952, the best previous year.

Net income was $2,926,138, compared with $2,105,178 for 1952, according to the annual statement issued last month.

Reliable, Dependable Top-dressing Materials

ARCADIAN*, *the American* Nitrate of Soda, is the genuine, old reliable nitrate of soda many thousands of farmers have used for many years. It contains 16% or more nitrogen, all soluble, quick acting and immediately available to crops. Also contains 26% sodium (equivalent to 35% sodium oxide). ARCADIAN Nitrate of Soda is made in crystals, free flowing and easy to distribute by hand or machine. It is non-acid-forming and contains no harmful impurities.

A-N-L* Nitrogen Fertilizer contains 20.5% nitrogen — 10.2% in quick-acting nitrate form and 10.3% in long-lasting ammonia form. It also contains 9% calcium oxide equivalent and 7% magnesium oxide equivalent. This material is in pellet form and easy to distribute as top-dressing or side-dressing.



NITROGEN DIVISION ALLIED CHEMICAL — Allied Chemical

Nitrogen Division
ALLIED CHEMICAL & DYE CORPORATION

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Atlanta 3, Ga. • Columbia 1, S. C. San Francisco 3, Cal.

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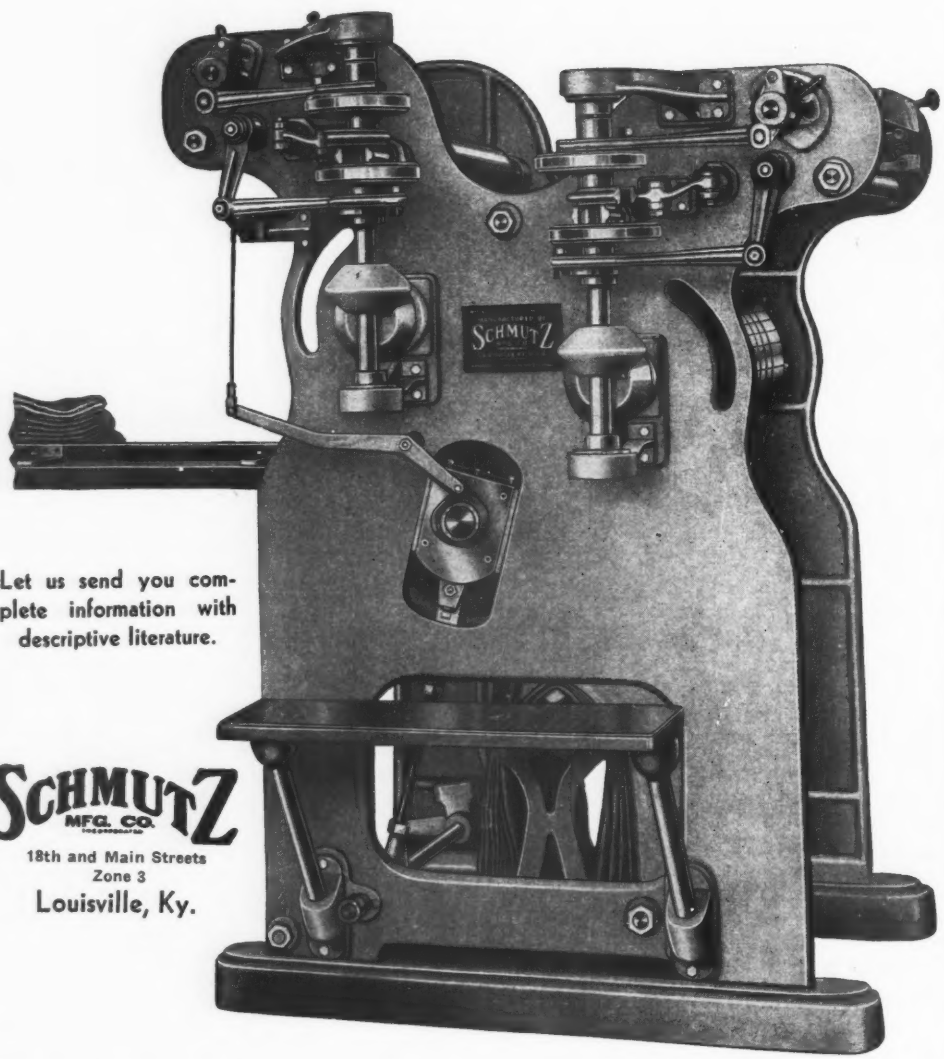

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Grasshoppers, armyworms heavy . . .

United States Pest Survey

GRASSHOPPERS and armyworms well might be termed the Nation's number one crop pests according to Federal and state pest control reports through August 15. Many states reported continuing damage from grasshoppers and infestations of fall armyworms were found over a wide area.

USDA reports that damaging outbreaks of grasshoppers have occurred over much wider areas than at any other time in recent years. Threatening to serious infestations on over two million acres in Colo., N. M., Tex. and Okla. were being curbed by cooperating landowners and Federal and state owners.

In Colo. 350,000 acres have been covered with aerial and ground applications and at last report, operations were under way on 69,000 acres of heavily infested N. M. rangelands. N. M. reported the pest as the most pressing insect problem in the state.

Many Iowa farmers have been spraying pastures, hay fields and edges of corn and soybean fields and have been urged to check soybeans, especially buds and small pods.

Pastures in Montgomery Co., Md. have been given a ground application of Aldrin at the rate of about four ounces in 10 gallons of water per acre with excellent results. The state reported damage to pastures, alfalfa, corn, flowers and shrubs in scattered areas.

Other grasshopper highlights: Mo.—damage by four main crop species continuing heavy; Ill.—abundant in northern half of state; Penna.—unusually abundant; Mich.—building up in northern counties; S. D.—economic infestations in four counties; Wisc.—some corn, soybean and tobacco damage in northern counties, ripening grain affected in northern areas and Utah—damaging in some areas of three counties.

A serious infestation of fall armyworms in a field near Champaign, Ill. has been termed a possible forerunner of additional outbreaks in that state. Damage continued on pasture grasses, sudan grass and cotton in all La. areas and a new generation was found in the Baton Rouge area.

Pasture grasses in one Ga. county were being damaged by the pest and millet on some farms in two counties of that state were reported defoliated. About 60 per cent of newly formed field corn ears were

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injured in Santa Cruz Co., Ariz. and whorls in late-planted fields were attacked. Late corn in Allegany Co., Md. also was affected.

European Corn Borer—Although no serious damage was anticipated in southern Ill., conditions continued serious in northern counties. Pupation and emergence were high in that area and it was said probable that many fields in the northern third of Ill. might have high second generation infestations, with borer populations of one to five per plant possible in many fields.

Cool weather delayed the predicted egg laying peak in Iowa but moths were reported actively laying eggs with indications of a high second brood population. Only a trace of the borer was uncovered in the northern Red River valley of N. D. but ten to 25 egg masses per 100 plants were found in southeastern and central Neb.

Infestations were fairly severe in Ohio early market corn but were light in field corn except for a few isolated fields. Adult moths were numerous at light traps in Mo. but egg masses were reported scarce.

Corn Earworm—Heavy infestations reported on Va. sweet corn and whorls of late corn in Mo. have been heavily damaged. The pest was reported more abundant than usual in some N. D. sweet corn fields.

Okla. reported close to 100 per cent infestation in all sweet and field corn and 10 to 30 per cent of ears in silking fields of central Ill. were infested with eggs and young larvae. Populations in the latter state were expected to increase rapidly. Below average infestations were expected in Utah. The pest was said to be very scarce in south central Ida. sweet corn.

Boll Weevil—Infestations in S. C. continued to build up in both treated and untreated fields. Although most growers in the state made their last control application before the August 11 report, some growers were said to be planning protection of young bolls until at least three weeks old. The practice was advised on fields of young cotton with additional bolls requiring protection.

Weevils continued heavy in late planted south-central Tex. counties where control measures generally are not used as well as in some succulent fields in south-central, east and central areas of the state. Local migration was underway in Tenn. and young cotton was heavily infested in many cases.

Populations in N. C. fields varied widely, from abundant to light. The pest was said to be causing damage in tender bolls in many fields.

Infestations in other states: Ga.—175 fields examined, all infested with average of 45 per cent punctured squares on treated fields and 54 per cent on untreated; Ala.—64 fields in eight west central counties showed average infestation of 64 per cent; Miss.—of 1,320 fields, 82 per cent infested with 12 per cent square infestation average and Tenn.—average square infestation of 16 per cent in western area fields.

Bollworms—Infestations generally were low in most cotton growing areas with serious numbers reported in two Okla. counties. Bad, medium to very serious infestations in Riverside Co., Cal.

Spider Mites (on Cotton)—These pests were reported increasing in a few areas; notably, three Cal. counties, Mo., Ark., Ala. and S. C. Damaging numbers were present in Sand Mountain, Ala. fields, west Tenn. and in some Ark. fields.

Cotton Fleahopper—A very considerable increase was noted in three Okla. counties with more than 40 per 100 terminals found in some fields. Injurious infestations occurred in a few fields of some central and north-east Tex. counties although they continued to diminish in most sections and still were light in the plains areas. From two to 24 per 100 terminals were found over much of the Mo. cotton growing area.

Corn Sap Beetles—An increase in its incidence as a primary invader of N. J. sweet corn was noted this year and it was a serious pest in all harvested fields. Reports state it was not unusual to find 35 to 50 per cent of husk extensions with egg or larvae. Damage also occurred on sweet corn in Kent Co., Md.

Bean Leaf Beetle—Damage on soybeans was reported from two Mo. counties with considerable feeding on pods of early varieties and up to 40 per cent foliage damage in some late fields. Eight to 10 beetles per linear foot of row were found in some heavily infested fields. They also were appearing in numbers of soybeans in central Ill.

Other Notes

Cotton growers in S. C. were reminded this year that an increase of only one boll per running foot of row pays the cost of insecticides used in making twenty applications at the rate of 15 pounds of dust or spray equivalent per acre. The extension service also said that this increase means an additional $15–$20 per acre return.

Some Miss. cotton farmers have complained that BHC has not given control of aphid. For best results the extension service has recommended that dusting be done only in late afternoon or in the evening, that dust spouts be kept above plants and that dosage be increased to 15 pounds of 3-5-0 or 3-10-0. It was pointed out that two to three days must elapse before a reduction in the numbers of aphids is noted. ◆

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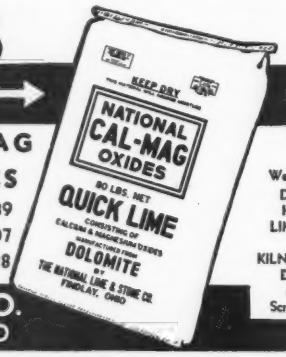

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. . . Technical Problems

(*Continued from page 37*)

pounds was investigated with the result that regulations under the Federal Insecticide, Fungicide and Rodenticide Act were changed to require only a precautionary statement such as "Caution—Harmful if taken Internally." This action also resulted in individual states making similar changes in the regulations under their Economic Poisons Acts.

Under "Liaison" category, problems of rather diverse interests were encountered. The committee was given the task of reviewing the statement prepared by the food protection committee, National Research Council, on prerequisites for testing pesticide products. Special study was given to the part relating to "Biological Prerequisites" as compared to "Chemical" and "Toxicological" prerequisites.

In 1946, specifications were prepared on copper compounds at the request of the Commonwealth of Pennsylvania for use by its Purchasing Department in requesting bids.

Research Training

Representatives of the committee met with a faculty committee of the Long Island Agricultural and Technical Institute, Farmingdale, Long Island, for the purpose of outlining and developing a course to train students for positions in the laboratory and research departments of the industry.

Visits by students to technical laboratories of the industry have been arranged. Members of the committee and others also have lectured on various subjects applicable to the course curriculum. Six students were graduated from this course in April 1947, and secured positions with industry. The course is continuing effectively and the demand for graduates exceeds the number annually available.

Cooperation in planning the Fungicide Colloquium of the American Phytopathological Society as well as participation in this program at the annual meeting of this society have been in effect since 1946. Industry representatives have an opportunity of presenting data and information on new products available for experimental testing, new products that will be commercially available, older products which have been improved as to quality or new uses and seed treatment materials. Cooperation also has been given to other professional societies when requested.

The projects discussed in no way include all that have been the subject of investigation but they illustrate the scope and diversity of problems which arise and require solution.

New developments and progress in this industry always will bring problems and the perennial challenge of meeting and solving them not only for the industry, but also for the ultimate user—the farmer or grower. ◆

. . . Traffic Jams

(*Continued from page 45*)

carriers and classification committee in all transportation problems. Through reduced rates and classification ratings, we have been able to save our members huge sums of money in their transportation costs and at the same time increase revenue for the carriers through use of their facilities to serve our more distant markets.

We have been fortunate through the years to have the top traffic officials employed by members of the organization serving on our traffic committee. With many more problems to consider, it has been necessary to increase the membership of our traffic committee to fifteen members.

Through the medium of the NAC Traffic Bulletins we are able to advise members of our industry, promptly, about changes in rules and regulations concerning transportation. Movement of our products in commerce is a dynamic process, constantly in need of reconsideration to meet changing conditions.

Through the NAC traffic committee the pesticide industry is well prepared to meet any changing conditions in transportation and devise ways and means of solving any problems which may arise. In this way we hope to foresee, or at least overcome, any traffic jams. ◆

Railroad Rate Rises

Railroad rate rises affecting shipment of pesticides and pesticide materials have come thick and fast in the last few years according to the author. The following is his summary of the increases indicating date, regulation number and percentage of increase: (All the regulations come under Docket 28300)

Aug. 22, 1947, 10 per cent increase; May 6, 1948, Ex Parte 162-B, 20–25 per cent; Aug. 21, 1948, Ex Parte 166-B, 20–30 per cent; Sept. 7, 1949, Ex Parte 168-A, 8–10 per cent; April 4, 1951, Ex Parte 175, 2–4 per cent surcharge; Aug. 28, 1951, Ex Parte 175-A, 6–9 per cent surcharge and May 2, 1952, Ex Parte 175-B, 15 per cent surcharge.

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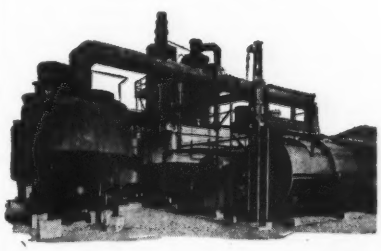

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Pittsburgh Agricultural Chemical Co., N. Y. C.

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Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Lion Oil Co., El Dorado, Ark.
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM NITRATE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Lion Oil Co., El Dorado, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM PHOSPHATE
Monsanto Chem. Co., St. Louis, Mo.

AMMONIUM SULFATE
See Sulfate of Ammonia

AMMONIUM SULFATE NITRATE
Baker & Bro., H. J., New York City

BAGS—Burlap
Bemis Bros. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.

BAGS—Cotton
Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.

BAGS—Multiwall-Paper
Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chicago, Ill.
International Paper Co., Bagpak Div., N. Y. C.
Hammond Bag & Paper Co., Wellsburg, W. Va.
Hudson Pulp & Paper Corp., N. Y. C.
Kraft Bag Corporation, New York City
McIver & Son, Alex. M., Charleston, S. C.
Raymond Bag Co., Middletown, Ohio
Union Bag & Paper Corp., New York City

BAGS—Dealers and Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
McIver & Son, Alex. M., Charleston, S. C.

BAG CLOSING MACHINES
Fischbein Co., Dave, Minneapolis, Minn.
International Paper Co., Bagpak Div., N. Y. C.

BAG CLOSING—THREAD & TWINE
Bemis Bros. Bag Co., St. Louis, Mo.

BAG PRINTING MACHINES
Schmutz Mfg., Louisville, Ky.

BAG FILLING MACHINES
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

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Ashcraft-Wilkinson Co., Atlanta, Ga.
Diamond Alkali Co., Newark, N. J.
Ethyl Corporation, New York City
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Pittsburgh Agricultural Chemical Co., N. Y. C.

BONE PRODUCTS
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
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Woodward & Dickerson, Inc., Philadelphia, Pa.

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Woodward & Dickerson, Inc., Philadelphia, Pa.

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Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

BUCKETS—Hoist, Crane, etc.
Hayward Company, The, New York City

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Wiley & Company, Baltimore, Md.

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Pittsburgh Agricultural Chemical Co., N. Y. C.

CLAY
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CONDITIONERS
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Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
National Aniline Div., Allied Chemical & Dye Corp., New York City
National Lime & Stone Co., Findlay, Ohio

CONTROL SYSTEMS
Sackett & Sons Co., The A. J., Baltimore, Md.

CONVEYORS—Belt
Sackett & Sons Co., The A. J., Baltimore, Md.

COPPER SULFATE
Tennessee Corp., Atlanta, Ga.

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McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa

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Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

DIELDRIN
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DILUENTS
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DITHIOCARBAMATES
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Stedman Foundry and Machine Co., Aurora, Ind.

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Fairlie, Inc., Andrew M., New York City
General Industrial Development Corp., N. Y. C.
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Davison Chemical Corporation, Baltimore, Md.
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Southern States Phosphate & Fertilizer Co., Savannah, Ga.

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Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
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Chemical Construction Corp., New York City
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Ammoniating
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Granulating, Fertilizer
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MACHINERY—Grinding and Pulverizing
Atlanta Utility Works, The, East Point, Ga.
Bradley Pulverizer Co., Allentown, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY—Material Handling
Atlanta Utility Works, The, East Point, Ga.
Hayward Company, The, New York City
Hough, The Frank G. Co., Libertyville, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY—Mixing, Screening and Bagging
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.

MACHINERY—Power Transmission
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY
Superphosphate Manufacturing
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

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MANGANESE SULFATE
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Tennessee Corp., Atlanta, Ga.

MANURE SALTS
Potash Co. of America, Washington, D. C.

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Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

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Berkshire Chemicals, New York City

NITRATE OF SODA
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Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

NITROGEN SOLUTIONS
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Lion Oil Company, El Dorado, Ark.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

NITROGEN MATERIALS—Organic
American Agricultual Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

NOZZLES—Spray
Monarch Mfg. Works, Philadelphia, Pa.
Spraying Systems Co., Bellwood, Ill.

PARATHION
Ashcraft-Wilkinson Co., Atlanta, Ga.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

PENTACHLOROPHENOL
Monsanto Chemical Co., St. Louis, Mo.

PHOSPHATE ROCK
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

PHOSPHORIC ACID
American Agricultural Chemical Co., N. Y. C.
Monsanto Chemical Co., St. Louis, Mo.

PLANT CONSTRUCTION—Fertilizer and Acid
Atlanta Utility Works, The, East Point, Ga.
Chemical Construction Corp., New York City
General Industrial Development Corp., N. Y. C.
Monsanto Chemical Co., St. Louis, Mo.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Titlestad Corporation Nicolay, New York City

POTASH—Muriate
Ashcraft-Wilkinson Co., (Duval Potash) Atlanta, Ga.
Baker & Bro., H. J., New York City
Duval Sulphur & Potash Co., Houston, Tex.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Potash Co. of America, Washington, D. C.
United States Potash Co., N. Y. C.

POTASH—Sulfate
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Potash Co. of America, Washington, D. C.

POTASSIUM PHOSPHATE
Monsanto Chemical Co., St. Louis, Mo.

PRINTING PRESSES—Bag
Schmutz Mfg. Co., Louisville, Ky.

PYROPHYLLITE
Ashcraft-Wilkinson Co., Atlanta, Ga.

REPAIR PARTS AND CASTINGS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

RESPIRATORS
Willson Products, Inc., Reading, Pa.

SACKING UNITS
Sackett & Sons Co., The A. J., Baltimore, Md.

SCALES—Including Automatic Baggers
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

SCREENS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

SEPARATORS—Air
Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Spraying Systems Co., Bellwood, Ill.

STORAGE BUILDINGS
Marietta Concrete Corporation, Marietta, Ohio

SULFATE OF AMMONIA
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Kolon Trading Co., New York City
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Jackle, Frank R., New York City
Lion Oil Co., El Dorado, Ark.
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Phillips Chemical Co., Bartlesville, Okla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFATE OF POTASH—MAGNESIA
International Min. & Chem. Corp., Chicago, Ill.

SULFUR
Ashcraft-Wilkinson Co., Atlanta, Ga.
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Texas Gulf Sulphur Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFUR—Dusting & Spraying
Ashcraft-Wilkinson Co., Atlanta, Ga.
U. S. Phosphoric Products Div., Tennessee Corp., Tampa, Fla.

SULFURIC ACID
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
International Min. & Chem. Corp., Chicago, Ill.
Lion Oil Company, El Dorado, Ark.
Monsanto Chemical Co., St. Louis, Mo.
McIver & Son, Alex. M., Charleston, S. C.
Southern States Phosphate Fertilizer Co., Savannah, Ga.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

SUPERPHOSPHATE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davison Chemical Corporation, Baltimore, Md.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Southern States Phosphate Fertilizer Co., Savannah, Ga.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SUPERPHOSPHATE—Concentrated
Armour Fertilizer Works, Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TALC
Ashcraft-Wilkinson Co., Atlanta, Ga.

TANKAGE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TEPP
Monsanto Chemical Co., St. Louis, Mo.

TOXAPHENE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.

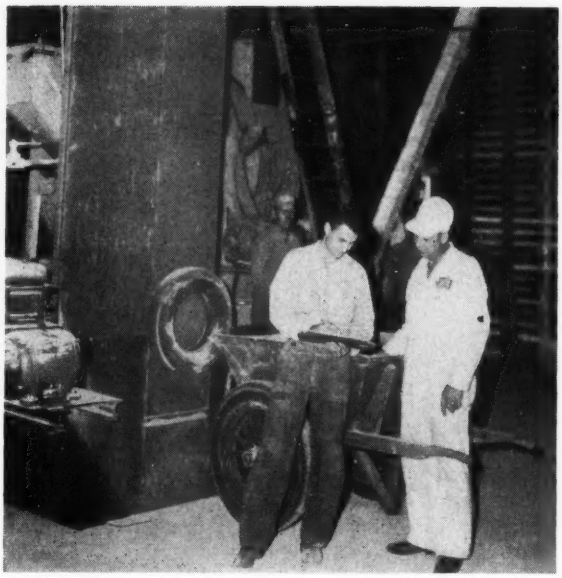
2, 4-D
Diamond Alkali Co., Newark, N. J.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

2, 4, 5-T
Diamond Alkali Co., Newark, N. J.
Ethyl Corporation, New York City
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

UREA & UREA PRODUCTS
Baker & Bro., H. J., New York City
Kolon Trading Co., New York City
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C

VALVES
Atlanta Utility Works, The, East Point, Ga.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.

ZINC SULFATE
Tennessee Corp., Atlanta, Ga.



Fertilizer plant features

Recycle Process

MIXING operations at a new fertilizer plant in Fremont, Neb., which features a special tumbling recycling process, were started in July.

The plant, built by General Fertilizer Co., got underway with 10–20–0, 15–15–0 and 8–32–0 grades. Now being mixed are 10–10–10 and 10–20–10.

The grades are being shipped to Nebraska dealers for winter wheat seeding, according to the company. It plans to sell the plant foods in South Dakota and Iowa as well.

Tumbling Process Ups Quality

The tumbling of the fertilizer after ammoniation has aided greatly in increased particle size and reduction of curing time in the bin, General states. No external heat is used in the process.

Designed primarily by W. P. Glaspey, the plant uses a Stedman Two Ton mixer, Exact Weight scales, Link Belt conveyors and Union Special Sewing machines.

It is situated on a four acre plot with a Union Pacific rail siding. CBQ and CNW railroads also service the building.

Overhead Conveyors Used

The mixing building is an all metal structure featuring overhead conveyors and the tumbling process for improving quality.

Warehousing and office facilities are in separate buildings. Yearly plant capacity, the company states, is 16,000 tons of mixed fertilizers.

Officers of the organization include W. A. Koepplin, president; Stewart D. Daniels, vice president and Victor M. Keilstrup, secretary-treasurer. ◆

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Congratulations!

WE ALWAYS knew, even before we started assembling this month's special section on the National Agricultural Chemicals Association, that the NAC was doing a fine job in keeping member companies in the pesticide industry informed on matters of interest.

That was brought home strikingly in past months by the manner in which top personnel in the industry praised the work of NAC officials and referred us to them for further information and statements of policy.

But we never really appreciated what a thorough job the Association is doing in the very complex field of pesticides for the farm.

We were quickly made aware of the fact, however, in going over the articles prepared for the special section (which starts on page 11) by officials of the Association and leading committee members.

Such men as President Arthur W. Mohr, Executive Secretary Lea S. Hitchner, Val Weyl, editor of NAC News; Joseph A. Noone, technical adviser and committee heads Dr. L. Gordon Utter and John J. Lynch.

NAC isn't just sending out a pamphlet now and then, and holding a couple conventions during the course of the year.

For proof of this, read the articles in the section which show how NAC members (committee members as well as paid staff personnel) are concerned every day with legislation—both state and federal, traffic, technical problems, labeling, and with scores of other problems that combine to give the average manufacturer plenty of headaches.

Just so everyone in the industry could know and appreciate the job NAC is doing, we prepared the special section as our way of observing the 20th anniversary of the Association.

In addition to the articles, there are comments from the leaders of the three major fertilizer trade associations, government heads and past presidents of NAC.

All these remarks bear out the opinion that the Association is doing a grand job.

FARM CHEMICALS presents its special section as a service to the industry and as a means of congratulating NAC as it leaves its 'teens and heads for bigger (and busier) years to come!

ANY fertilizer or pesticide manufacturer is well aware of the fact that farmers need a lot more education on the values of farm chemicals in enabling bigger yields and in upping farm profits.

The job is especially important right now with farm prices dipping to the point where many farmers will consider cutting back on layouts for such "luxuries" as fertilizers and pesticides.

But there is another form of education—to the general public—that must receive greater emphasis so that the industry won't be unobstructed by a plethora of laws and restrictions.

No matter what the facts may be concerning the *safety* and *necessity* of pesticides, public opinion, however misinformed, plays a tremendous role in shaping the general course of legislation.

That's why FARM CHEMICALS has been urging the industry, through NAC and by individual action, to intensify its efforts toward showing the public the true benefits of pesticides.

It seems to be an old law of the press that bad news is more interesting to readers than good news.

A recent column by nationally syndicated columnist Drew Pearson is a case in point.

The column reported testimony of a North Carolina doctor, who told members of Congress recently of the dangers of fruit sprays, and warned, according to Pearson, that they may "be slowly poisoning the American people."

The column went on to cite examples of the harmful effects of BHC, DDT and other insecticides.

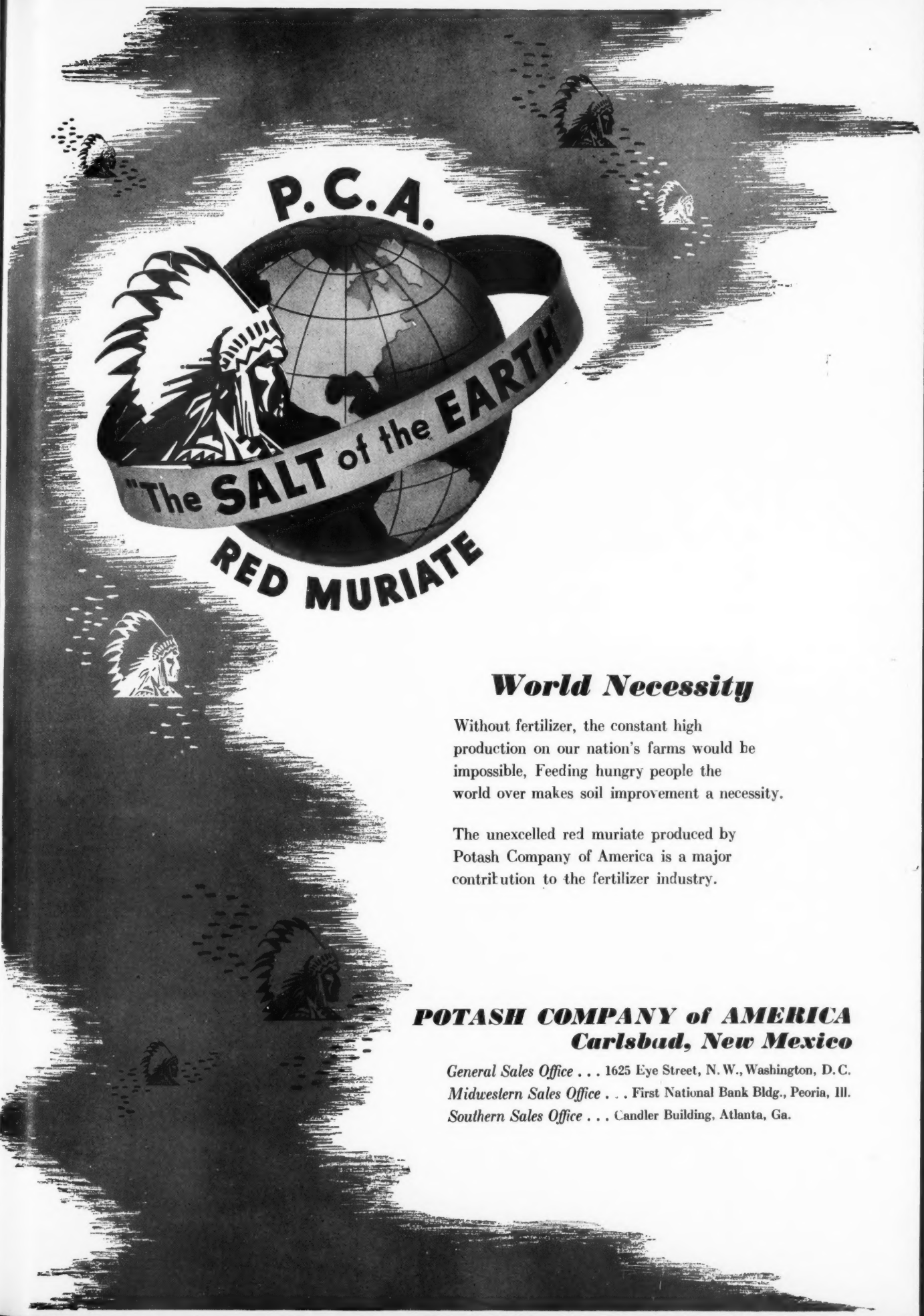
Pearson was careful to note that "in fairness to the insecticide manufacturers, it should be pointed out that most of them scrupulously test and label their products to safeguard the public."

Anyone connected with the pesticide industry knows that is true. But telling ourselves won't help any, and telling the Congress doesn't help much; not as long as Congressmen take their cue from the people back home who are easily influenced by sensational reports about the dangers that lurk on the food shelf.

The 20th annual meeting of the NAC should be an excellent occasion to make concrete plans for putting the story of the pesticide industry before the public by means of press, radio, television and movies.

There's a good story to be told. It must be told if the industry is to prosper in years to come.

—HAMILTON C. CARSON



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DOUBLE SULFATE OF POTASH-MAGNESIA

CONTAINS SOLUBLE MAGNESIUM

THE FOURTH ELEMENT

on

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ZONE-8

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There it is . . . marked right on the bag! And it's in the bag, too—*soluble magnesium*, the fourth plant food element that farmers want in their quality fertilizers for the extra punch needed for profitable crop yields.

Your dealers want the fourth element to give them a better product to sell in a highly competitive market. Fertilizer manufacturers from coast to coast have found that the most practical and economical way to include magnesium in soluble form in their quality mixed fertilizers is with *Sul-Po-Mag*.

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Use *Sul-Po-Mag*, containing soluble magnesium, the *fourth plant food element*. You'll give the dealer a fertilizer he can merchandise profitably—the farmer, a more complete fertilizer for greater crop yields of higher quality. Put it *in* the bag, put it *on* the bag: Nitrogen—Phosphate—Potash—*Magnesium*.

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